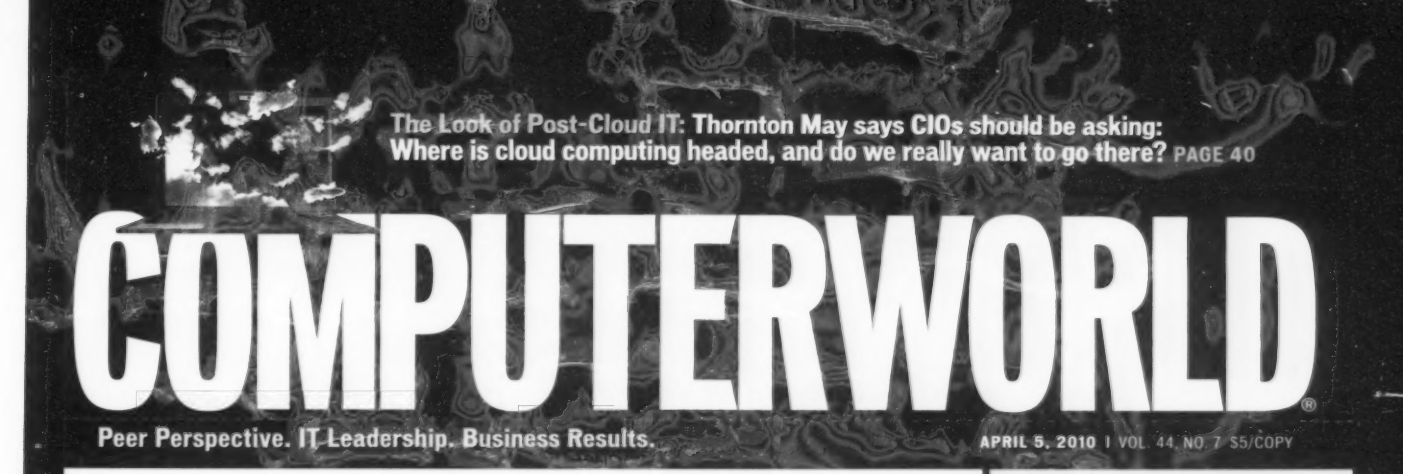

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Trapped between flat salaries and ever-increasing workloads, IT professionals are about to explode. Our survey shows why. PAGE 17

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24TH ANNUAL **SALARY SURVEY 2010**

COVER ILLUSTRATION BY RICHARD BORGE

IT Salaries Stall, Workloads Rise, And Staffers Feel The Squeeze

IT staffers are being hit with a double-whammy – more work and flat pay. Not surprisingly, job satisfaction for some is falling. Results from our survey of nearly 5,000 tech professionals at every job level show how the IT workforce is faring.
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■ **Talk your way into a raise.** On paper, IT salaries are frozen. In real life, there are still ways to get an increase in pay. Here's how.

■ **Hard times for contractors.** IT salaries are mostly flat, but contractors' pay rates are falling fast. Find out what's driving the dip.

■ **Be part of the 2011 results.** Every year, *Computerworld* polls thousands of IT professionals about job satisfaction and compensation to get a snapshot of the IT labor market. To take part in our 25th annual salary survey, visit **computerworld.com/html/research.**

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ONLINE CHATTER

RESPONSES TO:

BYOPC Won't Be A Party for Security

March 22, 2010

Protecting intellectual property and clients' confidential information are the biggest reasons not to allow BYOPC. When you let employees use their own PCs at work, you give up some necessary control over the hardware, software, data and activity on the computer.
Submitted by: *Mike*

Aside from having to master many different operating systems, you would have to make all thick client applications compatible with all OS flavors. I get a headache just thinking about the prospect of tracking down software compatible with any given OS. We still use enough software in our environment to make XP (or Vista 32) a requirement. But hey, implementing the CIO's suggestion could be a means to go SaaS and jump into the cloud.
Submitted by: *waverider*

What? The CIO asked before making a decision? He is either very smart or overly cautious!

The BYOPC plan could work, if you ran all applications on the server and made all computers run Remote Desktop Connection. But people might not like having their computers being turned into glorified dumb terminals.
Submitted by: *Anonymous*

Could this be an application for virtualization? Create images that have the right guest OS and applications for your standard work environment, and then let people run the images with (for example) VMware player. If their machine isn't beefy enough to run the image, the fallback would be to provide Remote Desktop on a server. VMware ACE has some manageability and security features for deploying images.
Submitted by: *Anonymous*

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Gadget-enabled multitasking creates the illusion of productivity. But that might be all it is – an illusion.
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How to Develop an Effective Capacity Planning Process

Author Rich Schiesser offers nine steps to help ensure that your technology infrastructure can handle user demand.
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HTML 5: Less Than It's Cracked Up to Be

OPINION: Behind HTML 5's hype is a half-baked standard that doesn't address the most important questions it was supposed to answer.
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Microsoft at 35: Its Best, Worst and Most Notable Moments

Preston Gralla offers an opinionated look back at the good, the bad and the ugly of Microsoft's 35-year history.
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Run Windows Apps Without Windows

CrossOver Linux 9 expands the number of Windows applications you can run on Linux – and it makes doing so easier than ever.
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10 Must-Have Free Palm webOS Apps

A smartphone is only as good as the apps you run on it. Here are 10 free tools to supercharge your shiny new Palm Pre or Palm Pixi.
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OPERATING SYSTEMS

IT's 'Love Affair' With Windows XP Ending

BUSINESSES ARE finally prying their hands from Microsoft's Windows XP as they warm to Windows 7.

"Over the years, IT has had a real love affair with XP," said Diane Hagglund, an analyst at Dimensional Research, which surveyed 923 IT professionals about their Windows operating system adoption plans in January. "It was just a great OS. It just worked for them. But that feeling is going away."

In the new study, 40% of the respondents said that they're worried about the hassles of maintaining the nearly nine-year-old Windows XP as it gets increasingly outdated — up from 28% in an April 2009 Dimensional survey.

Meanwhile, 60% of the respondents said they're worried about the cost and overhead of migrating to Windows 7, but that figure is down from 72% last year.

"IT is still more worried about Windows 7 than XP, but the trend is favoring Windows 7," the study said.

Confidence in Windows 7 has climbed since it shipped. Last April, 67% of those polled said they had concerns about Windows 7, which had not yet been released; this year, only 56% said they did.

"The difference was the release of the operating system, the biggest part of that from hands-on experience," Hagglund said, explaining why some in IT have changed their minds about Windows 7. "They're trying it at home, many of them, long before it comes to them professionally, so they know what it's like."

– Gregg Keizer

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WASHINGTON WATCH

Pentagon Seeks Big Penalties for Billing Snafus

Investigators say the U.S. Department of Defense has repeatedly paid for or been double-billed for critical war zone supplies that were never delivered. In many cases, faulty business IT systems at the military suppliers are to blame, according to the Commission on Wartime Contracting.

Now the Defense Department plans to crack down on improper billing, especially problems caused by long-standing "deficiencies" in contractor systems that were identified in previous audits. The DOD has proposed a rule allowing the government to withhold 10% of payments to contractors for each documented deficiency in a business system that isn't fixed.

But the proposal is raising alarm among industry groups like TechAmerica, which said that the move is unfair, costly and excessive and could "threaten the financial solvency of many contractors."

Ray Bjorklund, vice president at consulting firm Federal Sources Inc., said that although contractors should have solid internal controls, the proposed rule seems too severe.

But he added that he understands the DOD's thinking: "[Ultimately] cash flow manipulation is a great motivational tool for getting a contractor to perform better."

– PATRICK THIBODEAU

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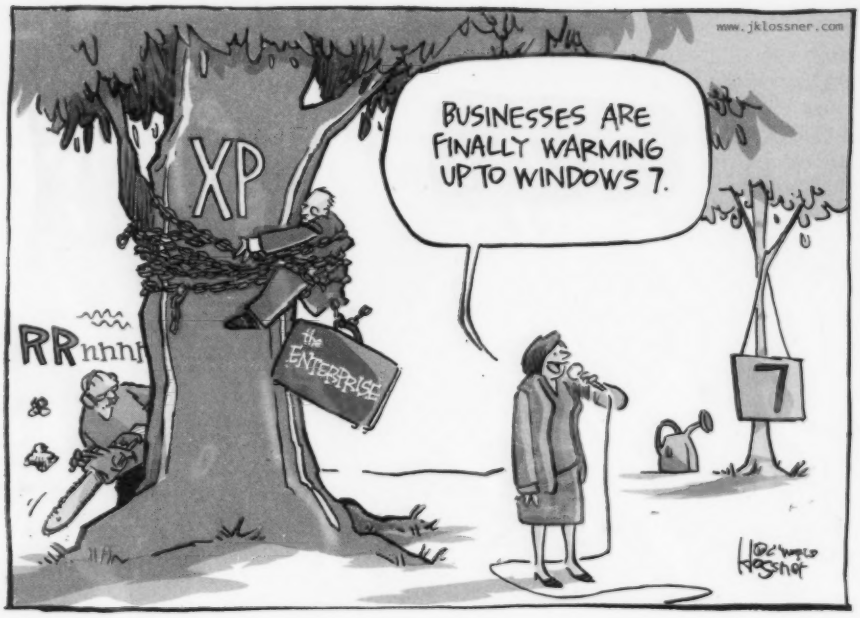
By John Klossner



ENTERPRISE SOFTWARE

ERP Projects Still Not Measuring Up

MORE THAN half of companies that implement ERP systems end up getting no more than 30% of the business benefits they expected, according to a study by Denver-based systems integrator Panorama Consulting Group LLC.

Of the 1,600 organizations surveyed, 72% said they were "fairly satisfied" with their ERP package. But this can be misleading, according to the study: "Some executives are just happy to complete projects . . . and give little thought to whether or not the company is better off with the new software or whether or not they're getting as much out of the system as possible."

More than half (51.4%) of ERP projects went over budget, the survey found, and about 35% of the respondents said their projects took longer than expected.

ERP customers can avoid surprises by taking the time to pin down a project's real costs, which go far beyond software licenses. Three quarters of a project's budget typically goes toward implementation, hardware upgrades, customization and other needs, according to Panorama.

Customers should also "identify pockets of resistance within the company and determine the organizational change management needed to make the project successful," Panorama suggested.

Altimeter Group analyst Ray Wang agreed. "People do not invest enough in change management," he said.

The length of ERP projects can exacerbate dissatisfaction, he added, noting that users' requirements might change a great deal between the time the vendor is selected and the time the system is deployed.

These factors explain why software as a service is gaining acceptance, with its promise of quicker implementations and easier upgrades, Wang contended. "It doesn't mean you go SaaS all the way," he said. "But there are things that are much better with SaaS," like human resources applications that require frequent updates.

– Chris Kanaracus, IDG News Service

Micro Burst

FORECAST

The global market for touch-screen mobile devices is expected to grow

97%

in 2010, surpassing 363 million units.

SOURCE: GARTNER INC., STAMFORD, CONN., MARCH 2010

ANALYTICS

Professors Struggling To Teach BI

Business intelligence is one of the hottest areas of enterprise IT, but college professors say they're struggling to train the next generation of BI-savvy workers.

Professors can't afford the latest BI technology and lack access to realistic data sets, according to a survey of 85 institutions by Barbara Wixom, an associate professor at the University of Virginia.

Mike Goul, a professor at Arizona State University, said it's difficult to find "real-life" data sets, culled from actual company data instead of textbooks, so that "students don't play with toy problems, and so they understand that things are messy."

In addition, the study said that "students are ill-prepared for the rigorous statistical analysis required. They shy away from the tough preparatory courses needed to make sense of query results."

The survey was sponsored by data warehouse vendor Teradata Corp., which has a free Web portal for BI education.

– MITCH BETTS AND IDG NEWS SERVICE REPORTER CHRIS KANARACUS

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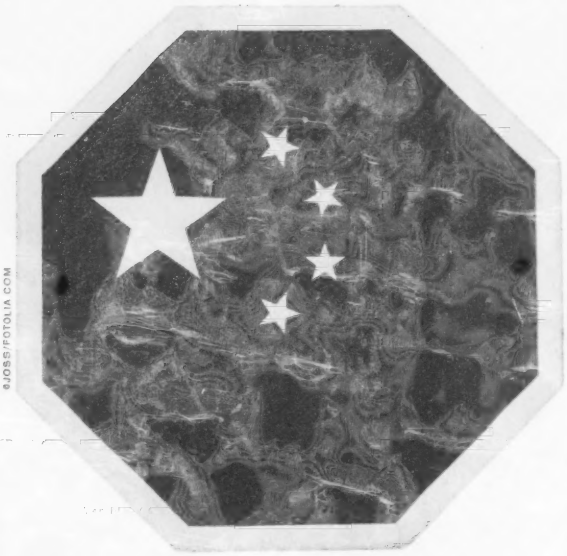

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Google, China Play Game of Cat and Mouse

Google's end run around censorship rules draws a subdued response from China.

By Sharon Gaudin

GOOGLE INC.'s January threat to go toe-to-toe with one of the world's most powerful countries left it with virtually no option but to stop censoring its search results in China and face the consequences, analysts said.

Late last month, Google stopped censoring results, and a week later it found that China had apparently blocked some access to its Internet sites for a short period.

Google first blamed itself for last Monday's intermittent blockage but then said it was likely caused by changes to China's Internet filter.

The company's decision to redirect Chinese users from Google.cn to its Hong Kong-based site, Google.com.hk, for "uncensored" search results followed its Jan. 12 threat to pull its business out of the country. At the time, Google contended that a "highly sophisticated and targeted" 2009 attack against its network had originated in China.

Google has not blamed the Chinese government for the attack, in which hackers sought to access the Gmail accounts of human rights activists.

Nonetheless, the company has asked global users of its Google Apps hosted services to monitor their availability in China, acknowledging that the government could at any time block the country's 384 million Internet users from accessing them.

Ezra Gottheil, an analyst at Technology Business Research Inc., said it's possible that the intermittent blockage of Google sites indicates that China is either testing the waters or just trying to make it a bit difficult to access the sites.

"If the numbers going to Google.com.hk are small, China probably won't bother [restricting access]. But if the traffic picks up, there will probably be some blockage," he added.

After Google announced that it would bypass Chinese censorship rules, the government quickly moved to defend the restrictions.

During a regular Chinese government news briefing, Foreign Ministry spokesman Qin Gang said that Internet activities are monitored "to ward off information that threatens national security and society's public interest."

He would not say whether the redirecting of Google.cn users to the Hong Kong site violates Chinese regulations, but he did maintain that companies operating in China must follow its laws.

Qin also gave little hint as to how the government might react to Google's move over the long term.

"What we could be seeing is the beginning of a cat-and-mouse game, with China making subtle changes to their great firewall to block or degrade Google service in China," said Dan Olds, an analyst at Gabriel Consulting Group Inc.

> **"It seems unlikely the Chinese government will see this as anything other than an attempt to bypass their laws.**
>
> **AUGIE RAY,** ANALYST, FORRESTER RESEARCH INC.

"The intermittent blocking might be China experimenting with new techniques, or it might be them thinking that the best way to cause Google the most trouble is to cause on-and-off problems that are harder to diagnose," he added.

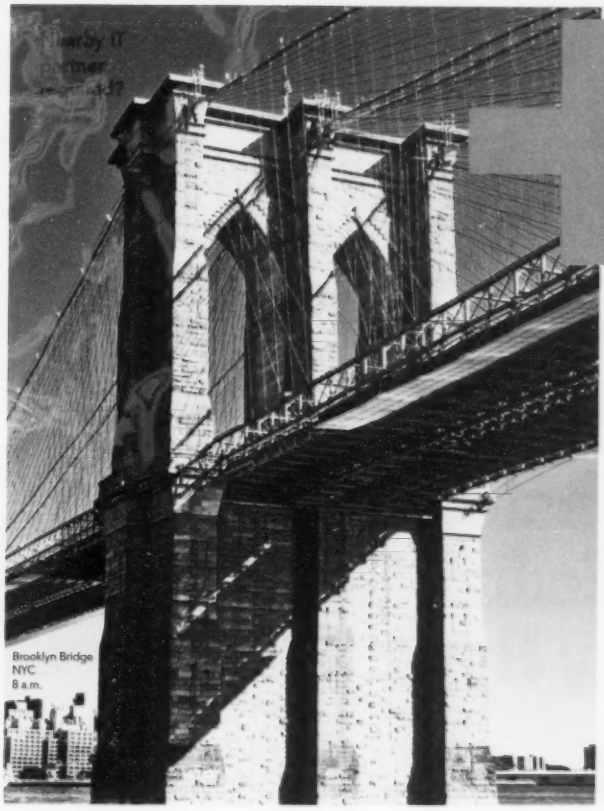
Despite the uncertainty about how China might react in the long term, Augie Ray, an analyst at Forrester Research Inc., called the decision to redirect users to the Hong Kong site a smart move. "Rather than unilaterally pulling out, they took an action that puts the ball back into China's court," he said. "It seems unlikely the Chinese government will see this as anything other than an attempt to bypass their laws."

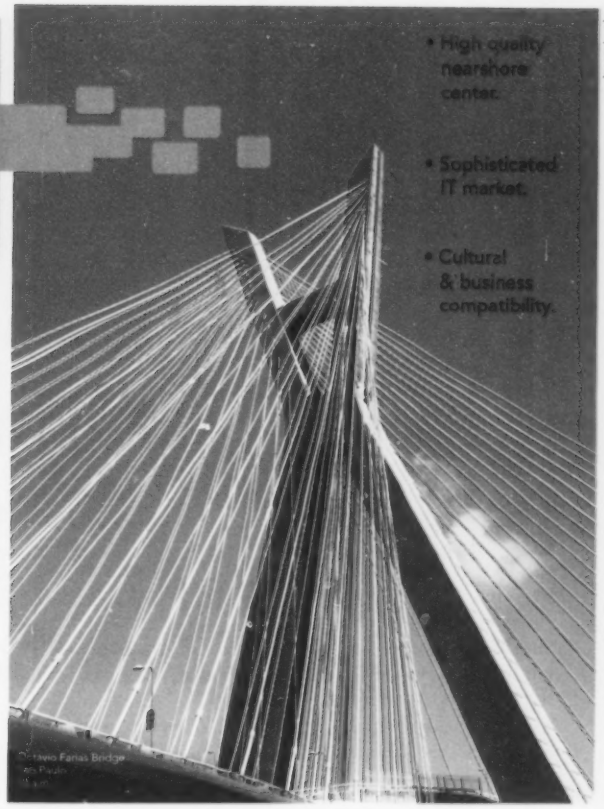
Meanwhile, Microsoft Corp. late last month restated that it plans to continue operating in China and will do so in accordance with the laws of the country.

"We have done business in China for over 20 years, and we intend to continue our business in China," said Cornelia Kutterer, senior manager for regulatory policy at Microsoft. ■

Computerworld's **Gregg Keizer** *and IDG News Service reporters* **Owen Fletcher, Jeremy Kirk** *and* **Juan Carlos Perez** *contributed to this story.*

One thing is for sure: Technology does bring the nations together.





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Windows Users Patch Fastest Amid Media's Zero-Day Hype

A researcher says publicity is the top reason why IT moves quickly to fix zero-day bugs.

By Gregg Keizer

WIDESPREAD publicity is probably the biggest driver in persuading IT managers to fix Windows zero-day bugs, not simply the fact that Microsoft sounds the alarm by issuing an emergency update, according to researcher Qualys Inc.

Zero-day vulnerabilities — those for which exploit code has gone public before a fix is ready — are widely reported on Internet news sites and dissected by bloggers and thus capture the attention of network managers and IT executives, who want them fixed pronto, said Wolfgang Kandek, chief technology officer at Qualys.

Kandek said last week that he reached that conclusion based on an analysis of data acquired from several hundred thousand PCs that the Redwood Shores, Calif.-based security risk and compliance management provider monitors for its customers.

Well-publicized zero-day Windows bugs are patched quickly by IT operations, whether the fixes are issued as part of Microsoft's standard monthly Patch Tuesday release or in an emergency out-of-band update, Kandek's research found.

"This tells me that media coverage is what helps," he said last week. "While [the media] covers the usual Patch Tuesday updates, it doesn't come close to the attention a zero-day receives."

A December 2009 Patch Tuesday update that fixed five flaws in Internet Explorer, including one zero-day bug, reached "half-life" — the point at which 50% of machines have been patched — in 10 days, and a January 2010 patch rushed out the door ahead of schedule made it to the half-life mark in nine days, Kandek found.

The two zero-day fixes reached half-life about 36% faster than the average 15-day half-life of operating-system-level updates overall, according to Kandek.

He noted that the survey also found that some organizations are taking longer than Microsoft's recommended 30 days to patch vulnerabilities, while others don't apply the security updates at all.

"I don't understand why," Kandek said. "Microsoft's essentially saying that most of the vulnerabilities can be exploited after 30 days [and] that [attackers] could probably have exploits if they wanted them."

Coincidentally, Microsoft last week issued its second out-of-band update of the year.

The 10 new IE patches include a fix for a zero-day vulnerability that has been used by attackers for at least several weeks.

Microsoft rated each of the 10 patches as "critical," the highest level in its four-step scoring system. All had been slated for release on Tuesday, April 13.

HD Moore, chief security officer at Boston-based security firm Rapid7, said that Microsoft had no choice but to make the out-of-band updates when a Taiwanese researcher nicknamed "Nanika" revamped public exploit code of one bug so that it worked reliably against both IE6 and IE7.

"Before, Microsoft said, 'Not that big a deal,' but then the facts changed and they say, 'Sorry, this does affect IE7 reliably.' They changed their mind," Moore noted.

Andrew Storms, director of security operations at San Francisco-based nCircle Network Security Inc., said that last week's update should convince users to "get onto IE8 — not just ditch IE6, but dump IE6 *and* IE7."

The patches fixed seven bugs, five rated critical, in IE7, which debuted in 2006 prior to the release of Windows Vista. The year-old IE8 was touched by just three of the 10 vulnerabilities, with only two rated as critical. ■

> **While [the media] covers the usual Patch Tuesday updates, it doesn't come close to the attention a zero-day receives.**
> **WOLFGANG KANDEK**, CHIEF TECHNOLOGY OFFICER, QUALYS INC.

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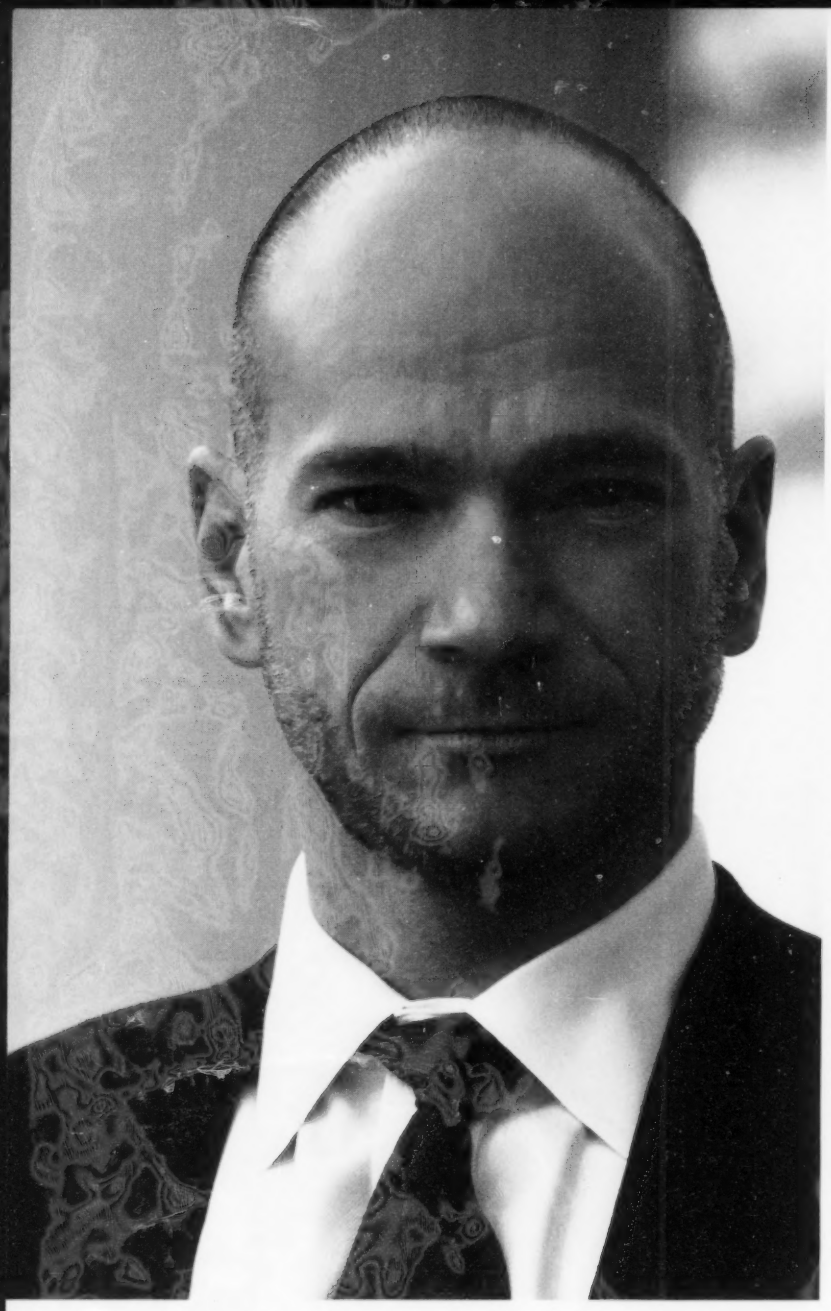

■ THE GRILL

Andrew McAfee

This MIT researcher says that to **get the most out of Web 2.0 tools,** businesses must rethink how technology can **help workers collaborate.**

Dossier

Name: Andrew McAfee

Title: Principal research scientist, Center for Digital Business

Organization: MIT Sloan School of Management

Location: Cambridge, Mass.

Favorite gadget: "Kindle DX – I travel with 30 or 40 books."

Favorite Web 2.0 tool: "I was initially a huge Twitter skeptic. I just didn't get it and didn't understand why any responsible adult professional should get into it either. It's become this background presence in my workday."

In high school, he was: "A book/math nerd."

Favorite guilty pleasure: "A cocktail called Northern Lights at a restaurant called Craigie On Main in Cambridge, Mass."

Sure, companies have started using Web 2.0 tools, but one man says we've seen only a glimmer of the change they're going to bring to the way we do business. Andrew McAfee, a principal research scientist at the Center for Digital Business in the MIT Sloan School of Management, is author of the recently released book Enterprise 2.0: New Collaborative Tools for your Organization's Toughest Challenges *(Harvard Business Publishing, 2009).*

McAfee says tools and Web sites like wikis, blogs, Twitter and Facebook are changing not only the way businesses share information, but also how employees function inside those businesses. In effect, Enterprise 2.0 is changing the way we work.

What does Enterprise 2.0 mean? Loosely, it means applying Web 2.0 tools and philosophies to different business situations. The tighter definition is the business use of an emergent social software platform. [It's about] building clever tools that get out of the way and let people interact as they want to.

Are employees dragging IT departments kicking and screaming into the world of Enterprise 2.0? People throughout the

Continued on page 14

Smarter technology for a Smarter Planet:

Why the old ways of working aren't working.

On a smarter planet, technology has made us more connected, but not necessarily more productive. As new global opportunities emerge, companies are finding that their internal processes aren't as dynamic as the marketplace requires. In fact, employees spend up to 25% of their time just looking for information that should be readily available to them. Managers require visibility across their company in order to make fast, informed decisions. IBM can help optimize business processes to align with the way people actually work and provide a contextual, information-rich environment. By combining elements of business process management, collaboration and SOA solutions, employees can act on real-time insights and locate the right people to seize new opportunities—helping to reduce costs.

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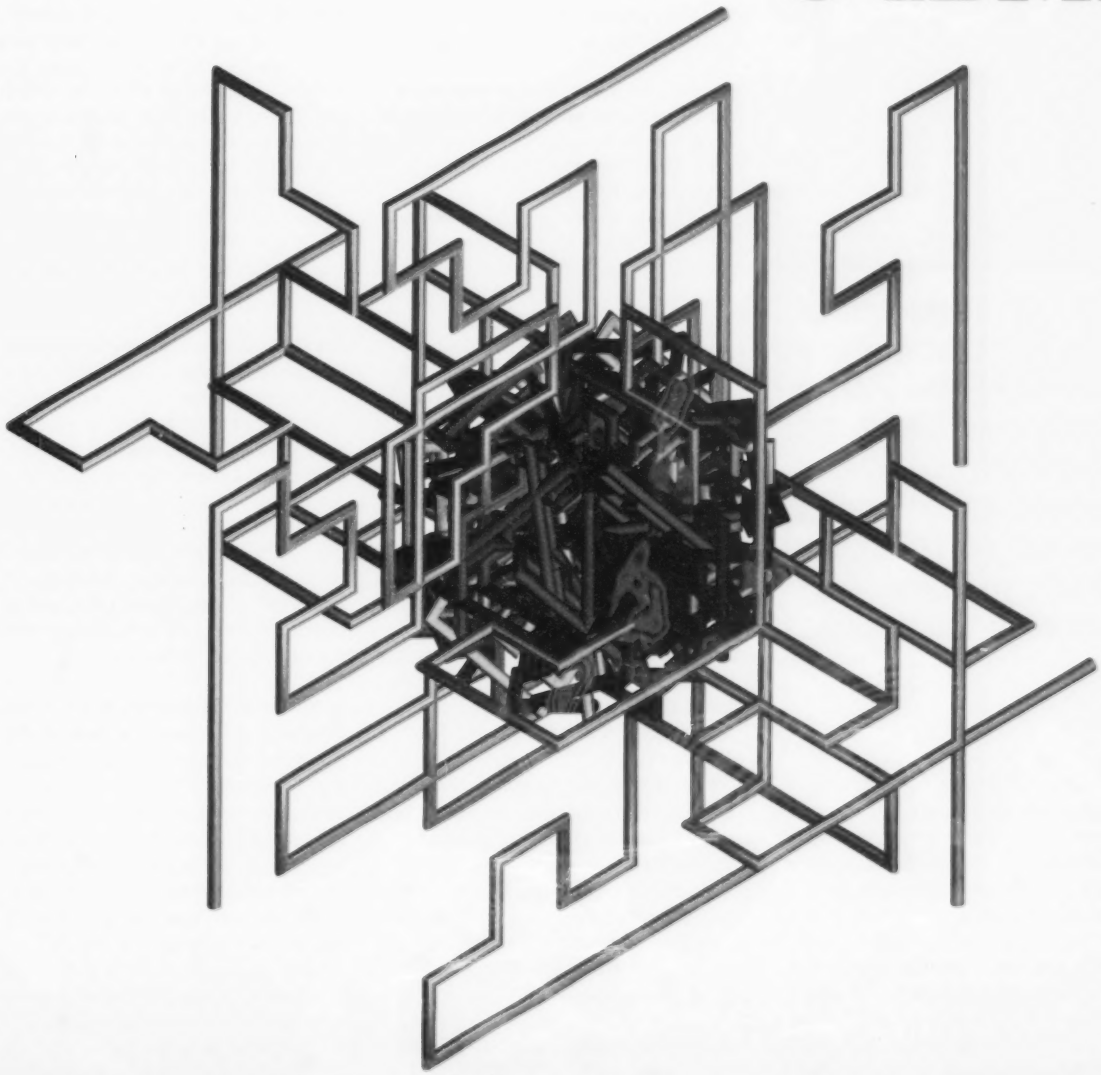

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"I appreciate that there are [Web 2.0] security considerations. There are legitimate concerns, but saying 'no, no, no' isn't going to win you fans elsewhere in the business.

Continued from page 12

organization are clamoring for easier-to-use tools. They're frustrated by the fact that tools outside the firewall are easier to use than the tools in their own enterprise. A lot of times, [employees] do an end run and use some cloud utilities to get their work done.

IT departments have had the final call over what has been used [in the enterprise], but that era is drawing to a close. I appreciate that there are security considerations. There are legitimate concerns, but saying "no, no, no" isn't going to win you fans elsewhere in the business.

A lot of executives fear that Web sites like Facebook and Twitter are big productivity killers. Do you agree with blocking employees from using them? I don't agree that it's time-wasting. They might say, "We don't like those big public utilities, but we will give you something equivalent behind the firewall." Sticking your head in the sand and waiting for this to pass is an extremely short-sighted philosophy. There's the idea that the coolest tech gizmos are no longer the ones that the company buys for you, but that you can get for free on the Internet.

What are the best ways that businesses are taking advantage of Web 2.0 technology? They're taking advantage of it in a few different ways. They're using it to let people broadcast their expertise: I'm going to tell the organization what I'm doing, what I know and what I'm good at. I'm not filling out fields in a database. I'm doing this by blogging. That lets me narrate my work.

Combine that with decent search technology, and you can find out who in the organization would be a good colleague for you [to work with]. You also can use it to broadcast your ignorance and talk about things you need help with. If people have something that would be helpful, they're usually happy to share it with you.

Which businesses are doing a great job with their Enterprise 2.0 efforts? The BBC did something really interesting a while back. All the managers were saying their intranet search was incredibly frustrating. They realized they could refine their intranet search and make it better, but instead they formed discussion groups. You can ask anyone on the BBC network a question, and anyone can answer you. You can ask, "Where does this information exist?" Someone will say, "It's right here," and they'd provide a link or provide an attachment. It's a way to let people be helpful to each other.

Do any other businesses stand out with their Enterprise 2.0 efforts? The CIA is using [Enterprise 2.0 technology] to broadcast [individuals'] expertise to people inside the intelligence community. Before, they had no way to find people in different organizations working on the same things or who were experts in something they were working on. Now, they can reach out and find people who are valuable, not only in the CIA, but in the FBI and the NSA. There might be a colleague out there who would be useful to you, if you knew about them. Now there's an actual tie.

What's the biggest thing companies are doing wrong when it comes to Enterprise 2.0? Letting different flavors of concern or risk or fear hold them back. They can come up with a laundry list of things that can go wrong. Stuff can leap across the firewall. Someone can harass a co-worker. But when I talk to organizations that have gone the distance with this, they have not seen this behavior. If someone wanted to harass a co-worker, they didn't have to wait for blogging software to come along to do it, for instance.

Are Web 2.0 tools changing the way we do business? Not to a huge extent, yet. The adoption is not universal. It's not like you magically transform yourself overnight. Most big enterprises are aware of the phenomenon. They're interested and are trying to figure out how to proceed. It's a long, slow process. We're asking people to rethink how they think about technology and collaboration. Companies will be transformed. It will be a quiet, subtle transformation, though.

In what ways will businesses act or look differently in 10 years as a result of Web 2.0 tools? What I hope is that some part of people's jobs will be about enterprise-level colleague-hood. How are you helping out the enterprise as a whole? These tools make me optimistic, because they give people a voice inside the enterprise. In the future, it will be easy to figure out who in the enterprise can be valuable to me. I can home in on the people I need to work with, and right now that still can be very difficult to figure out.

— *Interview by* **Sharon Gaudin**

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Best Practices

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Thank you to our "Best Practices" judges for SNW Spring 2010:

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- Brian Carlson, CIO.com
- Lucas Mearian, Computerworld
- Norman Owens, Carlson, Inc
- Jackson Shea, SNIA End User Council member
- David Stevens, Carnegie Mellon University

Judging Criteria
Judges evaluated and ranked the finalists in each category against a set of criteria including:

- Financial return and measurable payback.
- Strategic importance to the business.
- Substantive customer impact (service, retention, acquisition).
- Positive impact on other business/organization units.
- Addresses system and department interoperability issues and heterogeneous platform integration challenges.
- Provides a strategic advantage to the business/organization while anticipating and accommodating the deployment of future storage networking solution initiatives.
- Supports the efficient and reliable data, information and application sharing/access between personnel, departments and divisions.
- Addresses challenges of data, information and application security, recovery and business continuity.

The SNW "Best Practices" Award recipients will be honored in a ceremony at SNW at the Rosen Shingle Creek Resort in Orlando, Florida.

For more information about the SNW "Best Practices" Awards program, visit www.snwusa.com and click on the Awards tab.

Congratulations to our Finalists!

SNW, in conjunction with Computerworld and the Storage Networking Industry Association (SNIA), proudly presents the SNW "Best Practices" Awards Program. This program honors IT user "best practice" case studies selected from a field of qualified finalists.

The finalists in each of the following categories are:

Best Practices in Green Computing, Energy Efficiency and the Data Center

- **CalTech** (California Institute of Technology), Pasadena, California
- **Earth Rangers**, Woodbridge, Canada
- **Infosys Technologies**, Bangalore, India
- **Reliance Tech Services**, Navi Mumbai, India
- **United Natural Foods Inc.** (UNFI), Providence, Rhode Island

Best Practices in Planning, Designing and Building a Next Generation Storage and Server Infrastructure

- **General Motors**, Detroit, Michigan
- **NetApp**, Sunnyvale, California
- **Salem Hospital**, Salem, Oregon
- **Welch Food Inc.**, Concord, Massachusetts
- **Wells Fargo and Company**, San Francisco, California

Best Practices in Storage Resiliency, Data Protection and Recovery

- **American Society of Health-System Pharmacists**, Bethesda, Maryland
- **Interbank FX**, Salt Lake City, Utah
- **St. Luke's Health System**, Boise, Idaho
- **State Street Corporation**, Boston, Massachusetts
- **Town of South Windsor**, South Windsor, Connecticut

Best Practices in Technology Innovation and Promise

- **Applied Materials**, Austin, Texas
- **County of Dinwiddie**, Dinwiddie, Virginia
- **Orlando Magic**, Orlando, Florida
- **Renew Data Corp**, Austin, Texas
- **The Greater Educational Opportunities Foundation**, Indianapolis, Indiana

Best Practices in Virtualization and Cloud Computing

- **Kelley Blue Book**, Irvine, California
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- **Partners Healthcare**, Charlestown, Massachusetts
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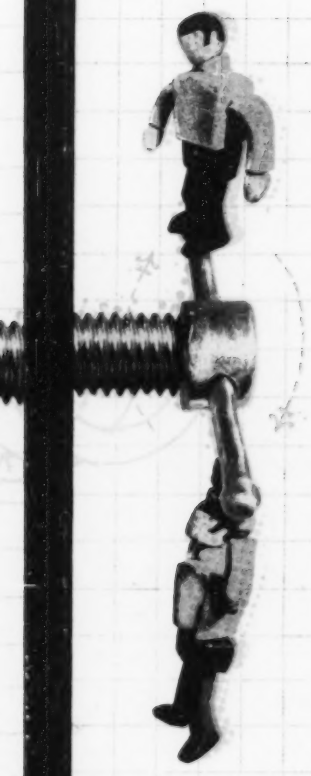
31 **Competition for jobs is fierce, but experts say accepting the first offer that comes along is a mistake. Learn how to conduct a search that gets you a better job fit.**

33 **Women at the midpoint of their careers are exiting the IT field at alarming rates. Yet unequal pay and fast-falling bonuses bear only part of the blame.**

RICHARD BORGE

[THE] Big Squeeze

Pressed for higher productivity, yet pinched by flat wages, many IT workers are feeling the pressure. **By Mary Brandel**



RICHARD BORGE

IT'S NOT EASY to stay positive in the Great Recession, protracted recovery or whatever phrase du jour is used to describe the current global economy. That's why the mood in the IT department at The Sedona Group in Moline, Ill., stands out like a ray of sunshine on a dreary day.

It's not that this IT group has escaped the squeeze that the IT staffs in most industries are feeling. Although there have been no layoffs within Sedona's IT group, total compensation has taken a hit, and workloads have grown exponentially, says David Buzzell, CIO at the workforce management solutions provider. That experience is mirrored in IT organizations throughout the country, according to *Computerworld*'s 2010 Salary Survey, which paints a picture of IT professionals who are pressed for higher productivity, pinched by fixed wages and very nearly ready to explode.

According to the survey, everything is wrong-side up: Bonuses and benefits are way down, and workloads and work hours have increased. Meanwhile, salaries are stagnant (rising just a microscopic 0.7% on average), and — not surprisingly — satisfaction is on the wane (see charts, page 27).

"More responsibilities — with pay cuts and more-costly benefits — does not make employees happy," says a technical services manager at a home furnishings retailer, who asked to remain anonymous. His bonus, which had represented 20% to 30% of his annual pay, was eliminated, he says, and his salary was frozen a few years back. Vacation was also cut, with workers required to earn it throughout the year, and they are now charged higher health insurance premiums.

But Sedona's IT group has met its workload and compensation challenge with creativity and a recognition of what it takes to alleviate anxiety and maintain morale. For instance, the IT staff has looked at taking full advantage of low-cost benefits, such as training opportunities that are included

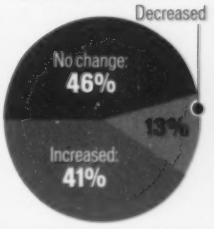
SALARIES STAGNATE

Salaries rose an average of just **0.7%** in the past year.

Senior managers (Base: 846)	0.9%
Middle managers (Base: 1,251)	0.7%
IT staffers (Base: 2,755)	0.6%

How has your base salary changed from one year ago?

BASE: 4,852 RESPONDENTS



Average increase: 6.3%
BASE: 1,986 RESPONDENTS
Average decrease: 9.4%
BASE: 638 RESPONDENTS

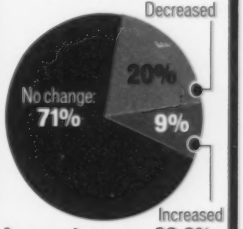
BONUSES BOTTOM OUT

Bonuses fell an average of **6.6%** in the past year.

Senior managers (Base: 84)	-5.2%
Middle managers (Base: 1,251)	-10.7%
IT staffers (Base: 2,755)	-5.6%

How has your bonus changed in the past year?

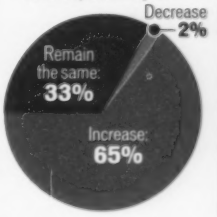
BASE: 4,852 RESPONDENTS



Average increase: 32.3%
BASE: 451 RESPONDENTS
Average decrease: 55.8%
BASE: 950 RESPONDENTS

WORKLOADS INFLATE

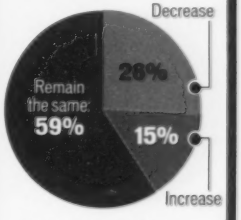
Over the next 12 months do you expect your workload and responsibility to:



BASE: 4,832 RESPONDENTS

TRAINING TEETERS

Over the next 12 months do you expect training to:



BASE: 4,839 RESPONDENTS

> **It's natural to feel trapped, and it's natural to feel resentful at the rising expectations. But feeling stuck and resentful is a lethal combination.** PAUL OLEN, MANAGEMENT CONSULTANT

IT Hiring Rebound?

IT job market observers such as Tom Silver, a senior vice president at Dice Inc., are seeing positive signs. The job count on Dice.com is up 7% over last year, he says, and it's up 27% to 34% in key markets like New York and Silicon Valley. "It's still down versus a couple of years ago, but we think it's encouraging," Silver says.

However, investments in long-term, visionary IT initiatives may not be the reason for the uptick in hiring, warns management consultant Paul Glen. The warming market may simply reflect the fact that businesses are finally pursuing projects that can no longer be deferred. In *Computerworld*'s 2010 Salary Survey, decreases were seen in the percentages of respondents who reported that their organizations had canceled projects (31%, down from 35% last year) and who reported budget cuts (61%, down from 65%). But once business starts to recover, it will still take at least a year for IT investments to start creeping back up, Glen predicts. "There's no sense of big, ambitious projects coming back this year," he says.

The Sedona Group's CIO, David Buzzell, agrees. "I still think business as a whole will be facing another tight year in 2010," he says. "There will be pockets of recovery, [but] projects will still [find it] very hard to get buy-in unless they're deemed critical or can easily return a quick ROI."

Already, however, he's feeling a greater sense of job security and hearing a lot less talk throughout the business world about potential cutbacks. In this year's Salary Survey, the percentage of respondents who said they feel very secure or secure in their current positions rose from 54% in 2009 to 57% (see chart, page 27).

"The truth is, companies desperately need IT to move forward," says a vice president at a luxury goods firm who asked not to be named.

Initially, contract positions will likely be more common than permanent jobs, Silver says. But the pay may start out lower than what IT contractors are accustomed to, Glen suggests, and the projects may not be as exciting as they once were.

And with unemployment still at 9.7%, talk of workers leaving their jobs in droves may be premature, says Glen, who foresees more of a "giant game of musical chairs." But employers would do well to start identifying their most valuable employees and planning retention strategies. "It's always your best people who are most attractive to your competitors," he says. "And they're the most difficult to replace."

One CIO who asked to remain anonymous admitted he has begun taking a more critical view of his company's approach to "making IT do without" and is reconsidering where he might want to be long term.

– *MARY BRANDEL*

> **"I still think business as a whole will be facing another tight year in 2010.** DAVID BUZZELL, CIO, THE SEDONA GROUP

with its Microsoft Developer Network subscription, exploring new projects or investigating different programming techniques. The staff also looks for opportunities to tap into the special interests of employees, which "makes the research and testing more interesting for them and gives them something positive to concentrate on," Buzzell says.

He is also careful not to cut low-cost programs that provide a large boost to staff morale. For instance, Sedona has a PC purchase program through which it offers 18 months of 0% financing to people who want to purchase a home computer. In addition, "as computers come out of production, we offer older computers to staff members and their families for no cost," Buzzell says. "Or within the IT department, we will use these older computers to often upgrade a staff member's computer at home."

Not that it's been easy. "The demands and the workload are growing exponentially," Buzzell says. "Between security risks, a more complex business environment and demands for increased functionality and innovation — but without the staff levels to take on more projects or funding to implement them — it's hard to make progress."

LICENSE TO GRUMBLE

Anecdotes illustrating the impact of the downturn abound in IT. And worker complaints are common in companies that don't take steps to shore up morale, as Sedona does. As a vice president at a luxury goods manufacturer says, "Bigger workloads in IT are a result of all other departments attempting to improve productivity because of the smaller workforce. They need IT to help them with this, so there is even more work for us to do." At the same time, he says, salaries were cut 10% across the board at his company and bonuses were eliminated, as was the 401(k) matching program.

In some cases, insult has followed injury. "We were told we were going to have new responsibilities and new systems we would have to manage," the technical services manager says. "The next week, we were told to lay off two employees within the group that would have to do it."

What's particularly difficult for IT professionals is that, as engineers, they are devoted to ideas of progress and forward motion, says Paul Glen, a *Computerworld* columnist, author, management consultant and frequent speaker on the topic of managing IT professionals. "When things slow down and we're just staying in place, it's hard — it violates assumptions about our value," he says. "We want to create innovation, lower costs, move things forward. But right now, it's

Continued on page 22

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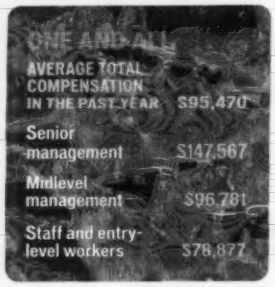

Continued from page 20

mostly about keeping things running, and maintenance doesn't feel like progress."

Frustration stemming from work conditions is resulting in low job satisfaction, even among people with a generally strong work ethic. The luxury goods maker vice president, for instance, sees signs that the desire to "go the extra mile" is waning. "People find it easier to schedule some vacation time, call in sick slightly more often and do not stay extremely late as much as before," he says.

Others have simply hit bottom. "I feel very little to no importance is given to the IT department until something breaks," says an IS manager at a cleaning supply company.

The mood is low enough that some observers foresee high IT turnover as the economy recovers and job opportunities open up. "I believe many IT personnel will be looking at changes in their career to explore new opportunities, learning experiences or simply just a change of pace," Buzzell says.

Even now, adds the technical services manager, "just about everyone here is looking for a new way to provide for their families."

HALF HAPPY

Respondents who reported being satisfied or very satisfied with their compensation:

Senior management (BASE: 843)	60.9%
Middle management (BASE: 1,250)	56.1%
Staff and entry-level workers (BASE: 2,754)	51.8%

SENIOR SATISFACTION

Respondents who reported being satisfied or very satisfied with their current position:

Senior management (BASE: 845)	71.0%
Middle management (BASE: 1,250)	62.7%
Staff and entry-level workers (BASE: 2,755)	60.2%

COUNTERMOVES

Which brings us back to Sedona. Despite the economy, Buzzell says there's been a fairly positive attitude within IT, thanks to measures he and the company have taken to alleviate anxiety. Those steps have included increased communication and visibility by the owners, who keep the staff up to date and informed on progress and trends within the industry.

"Nothing is more dangerous to morale than not knowing what's coming next," Buzzell says. Other steps include events that allow staff members to have fun while benefiting the community, like bowlathons and single-day work projects with groups like United Way.

Sometimes it's the small things that really count. With salaries frozen, Buzzell purchased a powerful PC at Sam's Club and allowed a staff member to borrow it as his home computer. During a project meeting, he discovered that this same staff member was working at home on a step of a new technical process that Buzzell wanted to explore at Sedona.

"Being able to provide him a much better machine for home, I know I will gain a lot of increased productivity at work," Buzzell says. "This opportunity has really impacted this individual, so for a very low cost, I've helped to increase productivity and greatly help build morale."

In the end, Glen tells IT professionals who are frustrated with their circumstances — perhaps rightfully, in many cases — to resist getting wrapped up with the idea of money as a measure of personal value. "It's a measure of the market," he says. "My advice is to get over it. Be glad you've got a job at the moment. It's natural to feel trapped, and it's natural to feel resentful at the rising expectations. But feeling stuck and resentful is a lethal combination." ■

Brandel *is a* Computerworld *contributing writer. Contact her at marybrandel@verizon.net.*

WHAT'S HOT

Largest average increases in total compensation by . . .

INDUSTRY	
Defense/aerospace	2.9%
Biotechnology/biomedical/pharmaceutical	2.2%
Government	1.8%
Education	1.4%
Health/medical services	1.4%

REGION	
West/South Central	1.2%
Middle Atlantic	0.8%
New England	0.6%
East/South Central	0.3%
South Atlantic	0.3%

CITY	
San Diego	3.0%
Minneapolis/St. Paul	2.0%
Washington, D.C., and suburbs	1.6%
Philadelphia	1.5%
Dallas	0.5%

JOB	
Web developer	5.0%
E-commerce/Internet manager	4.2%
Webmaster	4.0%
Network manager	3.0%
Information security specialist	2.7%

HOW WE CONDUCTED THE SURVEY

Computerworld's 24th Annual Salary Survey was administered via the Internet. Responses from both *Computerworld* print subscribers and visitors to *Computerworld.com* were included in the survey results.

The collection of survey data began on Sept. 30, 2009, and concluded on Dec. 21. A total of 5,275 people responded to the survey. Of those respondents, 4,852 were employed full or part time and were eligible to complete the entire survey.

At the 95% confidence level, the margin of error for this sample size is 1.4 percentage points. Compensation figures for 2009 were calculated based on the percentage change reported by the respondents.

MORE ONLINE: For a detailed look at the survey methodology, visit computerworld.com/10/salaries.

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Senior Management Positions

JOB TITLE	AVERAGE SALARY	AVERAGE BONUS	2010 TOTAL	2009 TOTAL	CHANGE
CIO/vice president of IT	$149,434	$25,093	$174,527	$173,372	+0.7%
Chief security officer	$141,689	$20,438	$162,127	$161,750	+0.2%
Chief technology officer	$154,300	$35,233	$189,533	$186,379	+1.7%
Director of IT operations	$110,901	$11,139	$122,040	$122,451	-0.3%
Director of systems development	$141,652	$25,978	$167,630	$168,863	-0.7%
Internet technology strategist	$126,889	$16,594	$143,483	$142,383	+0.8%

Middle Management Positions

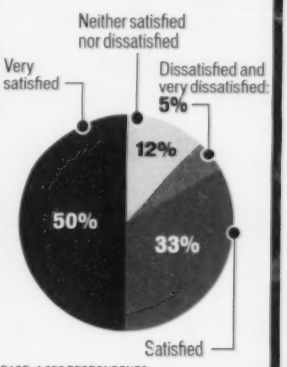
Application development manager	$106,963	$6,022	$112,985	$112,593	+0.3%
Communications manager	$84,198	$6,417	$90,615	$91,486	-1.0%
Computer operations manager	$90,076	$7,457	$97,533	$98,327	-0.8%
Database manager/ data warehousing manager	$95,988	$6,446	$102,434	$100,869	+1.6%
E-commerce/ Internet manager	$85,376	$2,936	$88,312	$84,784	+4.2%
Help desk/ tech support manager	$71,186	$5,554	$76,740	$76,499	+0.3%
Information security manager	$100,644	$7,830	$108,474	$108,542	-0.1%
IT manager	$84,325	$5,224	$89,549	$89,298	+0.3%
Network manager	$79,132	$4,203	$83,335	$80,894	+3.0%
Product manager	$99,839	$8,926	$108,765	$107,346	+1.3%
Project manager	$94,871	$6,326	$101,198	$103,708	-2.4%

Staff and Entry-Level Positions

Business intelligence analyst	$76,425	$6,344	$82,769	$86,354	-4.2%
Communications specialist	$75,473	$6,594	$82,067	$86,247	-4.8%

HAPPY WITH TECH

How satisfied are you with your decision to pursue an IT career?



BASE: 4,852 RESPONDENTS

IT'S A LIVING

What matters most to IT workers about their jobs:

Base pay	73%
Benefits	56%
Vacation time/ paid time off	40%
Job stability	38%
Flexible work schedules	34%
Challenging work	31%
Job atmosphere/ community	24%
Potential for career advancement	21%
Education/training	20%
Opinion and knowledge are valued	20%
Financial stability of company	19%

BASE: 4,750 RESPONDENTS; MULTIPLE RESPONSES ALLOWED

CUT TO THE BONE

The perks and benefits reduced or eliminated in the past year:

Matching 401(k) contributions	16%
Tuition reimbursement	14%
Health benefits/ insurance	10%
Profit sharing	10%
Plaques/awards gift certificates	10%

BASE: 4,750 RESPONDENTS; MULTIPLE RESPONSES ALLOWED

CHARTS CONTINUE ON PAGE 26

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Staff and Entry-Level Positions

JOB TITLE	AVERAGE SALARY	AVERAGE BONUS	2010 TOTAL	2009 TOTAL	CHANGE
Computer operator/ lead operator	$50,616	$2,686	$53,302	$52,532	+1.5%
Database administrator	$84,200	$2,644	$86,844	$86,446	+0.5%
Database analyst	$76,971	$3,393	$80,364	$79,715	-0.1%
Database architect/ developer	$91,485	$7,041	$98,526	$98,305	+0.2%
Help desk/tech support specialist	$49,376	$988	$50,364	$50,682	-0.6%
Information security specialist	$86,965	$6,702	$93,666	$91,228	+2.7%
Network administrator	$60,835	$2,192	$63,027	$62,616	+0.7%
Network engineer/ wireless network engineer	$77,981	$4,948	$82,929	$82,206	+0.9%
Programmer/ analyst	$71,747	$1,642	$73,389	$73,122	+0.4%
Project leader	$85,876	$4,191	$90,067	$90,833	-0.8%
Quality assurance specialist	$72,961	$2,757	$75,718	$75,917	-0.3%
Software developer	$81,672	$4,722	$86,395	$86,970	-0.7%
Software engineer	$88,697	$4,250	$92,947	$92,044	+1.0%
Systems analyst	$73,432	$3,759	$77,191	$75,840	+1.8%
Senior systems analyst	$85,520	$4,713	$90,234	$91,131	-1.0%
Storage administrator/ architect	$95,988	$5,893	$101,881	$100,309	+1.6%
Systems administrator	$69,029	$2,458	$71,487	$71,036	+0.6%
Systems architect	$101,033	$7,651	$108,684	$108,513	+0.2%
Systems programmer	$87,475	$2,143	$89,618	$89,438	+0.2%
Technical trainer	$66,089	$3,626	$69,715	$72,380	-3.7%
Technician	$50,853	$1,349	$52,202	$51,520	+1.3%
Technology/business systems analyst	$76,953	$3,459	$80,412	$81,363	-1.2%
Web developer	$63,309	$3,624	$66,933	$63,760	+5.0%
Webmaster*	$64,414	$62	$64,476	$62,026	+4.0%

*90% OF THE RESPONDENTS IN THIS CATEGORY REPORTED NO BONUS.

MONEY MOTIVATES

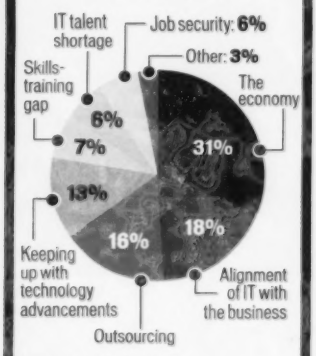
Only 8% of respondents said they wouldn't consider changing jobs for any reason. But of those who would, these are the top five enticements:

1. Salary increase	77%
2. Job security	40%
3. Work/life balance	39%
4. More vacation time	32%
5. Large sign-on bonus	32%

BASE: 4,828 RESPONDENTS; MULTIPLE RESPONSES ALLOWED

HARD TIMES

What's the biggest challenge facing workers in the IT industry today?



BASE: 4,837 RESPONDENTS

BUDGETS BEND

The top factors affecting working conditions:

Budget cuts	61%
Increased workload (due to staff cuts)	53%
Salary freeze	53%
Hiring freeze	46%
Permanent staff layoffs	44%
Training cuts	36%
Canceled project(s)	31%
Contract staff layoffs	22%
Increased outsourcing	19%
Salary cuts	16%
Merger/acquisition	13%
Unpaid work furloughs	9%
Contract/consultant hires	9%
Decreased outsourcing	4%
Increased hiring/staffing	3%

BASE: 4,177 RESPONDENTS; MULTIPLE RESPONSES ALLOWED

A Sampling of Average Total Compensation by Region

Job Title	New England	Middle Atlantic	South Atlantic	North Central	South Central	Mountain	Pacific
CIO/vice president of IT	$169,650	$219,738	$178,767	$162,678	$166,631	$129,969	$169,617
Director of IT	$139,680	$120,470	$110,249	$117,108	$118,069	$136,511	$132,709
IT manager	$86,779	$100,759	$87,810	$82,110	$91,869	$94,871	$92,773
Systems administrator	$67,310	$81,010	$75,242	$65,940	$86,626	$64,337	$83,568
Help desk/tech support specialist	$50,690	$53,488	$52,940	$45,648	$48,975	$44,674	$54,908
Project manager	$98,950	$116,782	$106,352	$98,084	$99,301	$101,599	$111,999
Programmer/analyst	$82,304	$73,455	$74,941	$71,130	$74,725	$61,377	$90,041
Technology/business systems analyst	$75,021	$85,702	$92,424	$82,977	$74,166	$61,919	$85,006
Network administrator	$78,917	$66,461	$65,389	$61,536	$48,463	$71,931	$69,510
Software engineer	$97,553	$97,879	$94,882	$94,067	$88,703	$102,450	$109,404
Systems analyst	$94,825	$90,544	$81,240	$73,058	$68,470	$67,475	$78,613
Systems architect	$114,278	$106,511	$113,006	$103,207	$107,915	$109,958	$126,581

RED TEXT: The total base for this job title in this particular region was fewer than 30 responses but more than 15. These figures should be used for comparison only, because they don't constitute a statistically significant sampling.

GREY TEXT: The total base for this job title in this particular region was fewer than 16 responses but more than nine. These figures should be used for comparison only.

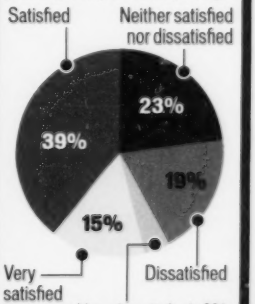
REGIONS

New England: Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island
Middle Atlantic: New York, New Jersey, Pennsylvania
South Atlantic: Delaware, District of Columbia, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida
North Central: Wisconsin, Michigan, Illinois, Indiana, Ohio, North Dakota, South Dakota, Minnesota, Nebraska, Iowa, Kansas, Missouri
South Central: Kentucky, Tennessee, Mississippi, Alabama, Oklahoma, Arkansas, Louisiana, Texas
Mountain: Idaho, Montana, Wyoming, Nevada, Utah, Colorado, Arizona, New Mexico
Pacific: Alaska, Washington, Oregon, California, Hawaii

Satisfaction Meter

MONEY

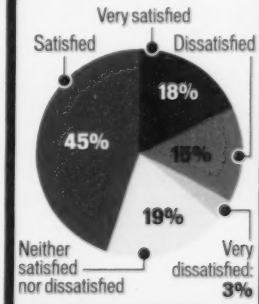
How satisfied are you today with your total compensation package?



Compared with 12 months ago:	
More satisfied	30%
Less satisfied	14%
The same	56%

CURRENT JOB

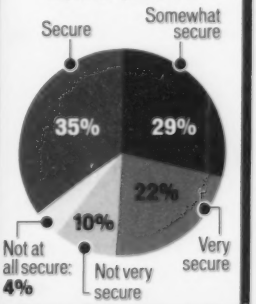
How satisfied are you with your current job?



Compared with 12 months ago:	
More satisfied	30%
Less satisfied	14%
The same	53%
Not in the same position	3%

SECURITY

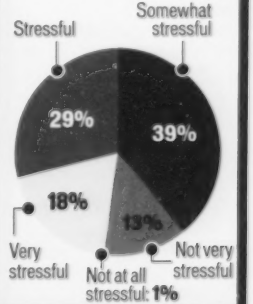
How secure do you feel your job is?



Compared with 12 months ago:	
More secure	32%
Less secure	16%
The same	49%
Not in the same position	3%

STRESS

How stressful is your job?



Compared with 12 months ago:	
More stressful	17%
Less stressful	25%
The same	55%
Not in the same position	3%

BASE FOR ALL SATISFACTION CHARTS: 4,852 RESPONDENTS

A Sampling of Average Total Compensation by Industry

CIO/vice president of IT	Director of IT	IT manager	Project manager	Help desk/tech support specialist	Technology/business systems analyst
Health care **$166,092**	Manufacturing (noncomputer) **$128,427**	Manufacturing (noncomputer) **$85,804**	Computer services/ consulting **$98,650**	Education **$43,864**	Education **$65,797**
Banking **$132,343**	Education **$95,824**	Education **$70,914**	Telecommunications **$93,962**	Computer services/ consulting **$61,354**	Computer services/ consulting **$91,089**
Computer services/ consulting **$170,240**	Health care **$107,146**	Government **$79,613**	Defense/aerospace **$118,342**	Manufacturing (noncomputer) **$48,758**	Government **$76,486**
Education **$150,861**	Government **$101,997**	Health care **$87,874**	Banking **$97,168**	Government **$53,439**	Legal/insurance/ real estate **$85,858**
Government **$134,325**	Entertainment/ marketing/advertising **$130,940**	Computer services/ consulting **$102,075**	Education **$97,936**	Health care **$45,719**	Health care **$72,550**
Legal/insurance/ real estate **$180,137**	Computer services/ consulting **$147,323**	Legal/insurance/ real estate **$101,757**	Government **$94,442**	Legal/insurance/ real estate **$54,591**	Manufacturing (noncomputer) **$72,665**
Wholesale trade **$222,895**	Nonprofit **$83,898**	Banking **$110,065**		Banking **$47,210**	Finance/accounting **$92,556**
Entertainment/ marketing/advertising **$167,787**	Legal/insurance/ real estate **$119,800**	Telecommunications **$100,620**			

Network administrator	Network engineer	Programmer/ analyst	Systems analyst	Systems administrator	Systems architect
Manufacturing (noncomputer) **$58,513**	Computer services/ consulting **$72,471**	Computer services/ consulting **$77,355**	Health care **$74,004**	Government **$77,663**	Computer services/ consulting **$112,307**
Education **$58,384**	Telecommunications **$85,484**	Government **$73,583**	Computer services/ consulting **$82,761**	Computer services/ consulting **$76,724**	Legal/insurance/ real estate **$112,422**
Computer services/ consulting **$71,519**	Education **$60,758**	Education **$68,079**	Manufacturing (noncomputer) **$74,469**	Education **$63,520**	Telecommunications **$104,318**
Health care **$63,355**	Government **$74,177**	Manufacturing (noncomputer) **$70,426**	Education **$68,961**	Manufacturing (noncomputer) **$69,242**	Finance/accounting **$105,830**
Finance/accounting **$62,598**	Manufacturing (noncomputer) **$84,713**	Legal/insurance/ real estate **$79,052**	Energy/utilities **$88,108**	Legal/insurance/ real estate **$72,996**	Manufacturing (computer) **$124,240**
		Transportation/ logistics **$64,131**	Government **$74,685**	Health care **$68,612**	
			Finance/accounting **$81,017**	Retail trade **$72,439**	
				Entertainment/ marketing/advertising **$59,429**	

RED TEXT: The total base for this job title in this particular industry was fewer than 30 responses but more than 15. These figures should be used for comparison only, because they don't constitute a statistically significant sampling.

GREY TEXT: The total base for this job title in this particular industry was fewer than 16 responses but more than nine. These figures should be used for comparison only.

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It's not just what you have. It's how you use it.

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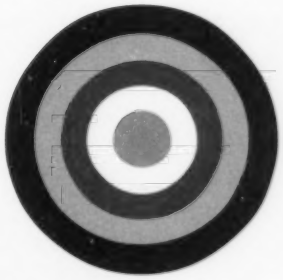
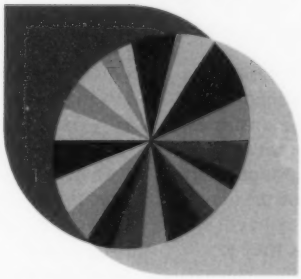


1 **Turn data into intelligence.** Your entire organization will benefit from dashboards and reports that provide business context to complex data. They help build an information-driven culture that connects disparate data and turns it into new intelligence.



2 **Uncover insights.** Go from information to insight. Spot business problems, recognize emerging trends immediately and analyze complex data.

3 **Take action.** Use your insight to have a real-time view of future business results. Realigning your resources with planning can help you react faster to changes in the market, reduce labor costs, increase sales and boost production.

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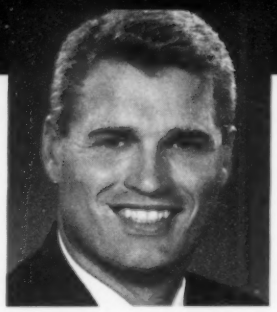
■ OPINION

Dave Willmer

Inspired Ideas for Retaining Staffers



AS THE economy shows signs of slowly emerging from the recession, companies are beginning to resume projects put on hold. The latest Robert Half Technology IT Hiring Index and Skills Report shows that nearly 80% of technology executives are confident in their companies' prospects for growth in the second quarter.

As your company starts to move forward again, keeping key personnel will be critical to your efforts.

But retaining your most valued employees may not be as easy as you think. A separate survey by Robert Half International and CareerBuilder found that 55% of workers plan to change employers, careers or industries when conditions improve. Your team may already be thinking about opportunities with other employers or be targeted by competitors that are ramping up their staffing levels.

Compensation remains one of the most powerful retention tools, but what if your organization isn't in a position to offer big raises or lavish bonuses? By taking a creative approach to retention, you can uncover powerful new ways to keep your best people on board. *The Christian Science Monitor* recently described creative retention strategies used by three companies on *Fortune's* current list of "100 Best Companies to Work For."

Career development. Ernst & Young creates a personalized career development map for every employee. This framework helps staffers see where they are, where they can go within the organization and, as specifically as possible, how they can get there.

Work/life balance. Accenture's "future leave" policy lets employees put some of their salary into an account that funds a future sabbatical to address other priorities in their lives.

Recognition. Marriott International celebrates 10 outstanding employees with a gala celebration at company headquarters. The event demonstrates the value the company puts on exceptional work.

■ By taking a creative approach to retention, you can uncover powerful new ways to keep your best people on board.

While these particular programs may not fit your organization, they exemplify the fundamental concept behind rethinking retention: taking the time and making the effort to customize retention efforts based on your employees' needs and concerns, rather than merely providing the "standard" offerings.

That means the first step is listening to your team and finding out what they value. What types of rewards or programs would they appreciate most? Even if you can't fulfill their every wish, their input can spark improvements, help you avoid unwise investments and serve as inspirations for the future, when your company may be able to incorporate their suggestions. Some companies even use the input they get from staffers to create a list of reward options, letting each employee choose what he wants.

Creative retention efforts can start small. Coffee sessions with company leaders can promote a sense of unity and openness. You might also consider ways to contribute to your employees' overall well-being. Gym memberships or other health-centered programs can build a more personal connection between the firm and its workers. Another possibility is to support positive lifestyle choices — with allowances for environmentally friendly transportation, for example.

Remember, though, that even the most creative initiative can go stale. Periodically review your retention programs and determine whether they still make sense by finding out what employees think, either through informal conversations or formal surveys.

Innovative retention programs draw part of their power from the effort that goes into devising and implementing them. Such initiatives demonstrate an employer's willingness to devote time and energy to understanding — and then trying to fulfill — employees' needs. The result can be the type of bond that keeps a key staff member on board when opportunity starts knocking. ■

Dave Willmer *is executive director of Robert Half Technology, a provider of IT professionals.*

[THE] New Job Search

Don't snooze through the recovery. Spend your time building skills, scouting out hot job segments and priming for what's next. **By Mary K. Pratt**

THE DAYS when a decent résumé could get you into the right position are gone.

Now more than ever, career experts say, you have to take a strategic approach to your job search and application process. And you have to pursue that strategy all the time, not just when you're in the market for new opportunities. The best candidates are always taking steps to manage their careers, assess the market and build relationships to keep them employed during good times and bad.

"You have to do everything you can to get the right job. You've got to maximize your opportunities. You've got to use all the tools at your disposal," says Allison Nawoj, a career adviser at CareerBuilder LLC in Chicago.

That's particularly true in this economy. Of the 2,090 manager-level respondents to *Computerworld*'s 2010 Salary Survey, 47% said their companies will hire new IT staffers in the coming year. However, cutbacks and layoffs have made competition for those positions fierce.

This new reality might push job seekers (particularly unemployed ones) to take whatever comes along. But that approach is short-sighted — and old-fashioned, says Thuy Sindell, vice president of client services and a leadership development coach at Mariposa Leadership Inc., a San Francisco-based career consultancy for managers.

Companies in this modern global economy will create or tailor jobs for top-notch workers, if you know how to look for such opportunities, says Sindell, co-author of *The End of Work As You Know It*. "Sometimes jobs are created for certain people, so that means talking to a former colleague about current initiatives and then saying, 'That sounds very exciting, and here's how I can help,' " she says.

But because most people don't get hired that way, Sindell says savvy job seekers pursue all channels to find positions that could be good matches for them. They check in with current and former colleagues, recruiters and search firms, visit job sites and attend career fairs.

The successful ones then tailor their résumés and pitches to fit each situation, she says. So you need to understand what you bring to the table and what you want your employer to offer, too.

EVER-ESSENTIAL RÉSUMÉ

Résumés still matter, says Ryan Erving, a director of business development who puts his company's IT consultants in front of hiring managers all the time. He points to one quality assurance tester who was perfect for two recent job openings but didn't initially attract the attention of potential employers. Erving says the tester's résumé was too generic, so he pushed him to write up a few points on his deep experience in performance- and load-balancing Web servers. The hiring managers took a closer look, and one quickly extended an offer.

"This is a worker who thought his résumé was good enough and didn't spend time to articulate what set him apart," Erving says.

To make sure you don't get lost in a pile of résumés, it's important to translate your tech skills into top- and bottom-line business values, says Dave Willmer, executive director at IT staffing firm Robert Half Technology

READY FOR NEW FACES

Do you expect your company will be hiring any new IT staffers in the next 12 months?

BASE: 2,090 IT MANAGER-LEVEL RESPONDENTS

PROGRAMMING NOTE

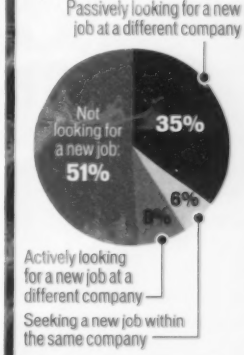
What types of IT skills do you expect your company will hire for in the next 12 months?

Application development	54%
Help desk/IT support	37%
Database analysis/ development	29%
Networking	29%
Security	29%

BASE: 975 RESPONDENTS EXPECTING TO HIRE NEW STAFF IN THE NEXT 12 MONTHS; MULTIPLE RESPONSES ALLOWED

READY FOR NEW DIGS

Which one of the following best describes your job search status?


Passively looking for a new job at a different company
35%
Not looking for a new job: 51%
6%
8%
Actively looking for a new job at a different company
Seeking a new job within the same company

BASE: 4,852 RESPONDENTS

FATTER PAYCHECKS

Here's what job hunters say they're looking for:

Higher compensation	61%
More interesting/ challenging work	46%
Career opportunities	45%
More personal fulfillment	44%
More responsibility	28%
More job stability	25%
Less stress	24%
A more stable company	22%
Security from layoffs	21%
A better personal/ family situation	21%

BASE: 2,383 RESPONDENTS; MULTIPLE RESPONSES ALLOWED

in Menlo Park, Calif.

"You have to be able to speak to what the business impact was in terms of your responsibilities," says Willmer, a *Computerworld* columnist. Hiring managers want to know that your skills can deliver business results, whether it's reducing downtime because you resolve help desk calls quickly or because you can deliver a Web product that will help generate more sales.

But getting the right job means more than knowing what you offer. You should also know what to expect when you get there. You need to make sure your next employer isn't going bankrupt or planning to offshore its IT services. You want to ask about managers' styles and company culture, so you don't end up in an unsuitable environment.

You can get much of this information in advance, Sindell says. Financial statements, industry reports and news stories provide insight into the stability and structure of the company.

Your network can help, too, Sindell notes. Chances are you know someone who can connect you with a current or past employee who can get you the inside scoop. From there, be sure to ask pointed questions during your interviews so you can get information on the things that matter most to you.

STAYING PUT

Of those who aren't looking for new jobs, here are the top reasons why they're staying put:

Satisfied with current job responsibilities	66%
Satisfied with current compensation	48%
Satisfied with company culture	47%
Job market is poor/ few opportunities	43%
Other	12%

BASE: 2,453 RESPONDENTS; MULTIPLE RESPONSES ALLOWED

"Obviously, the temptation is to try to figure out how to get a job as quickly as possible," Erving says. "But you need to have a place where you can work well with the organization."

GETTING THAT GOOD FIT

Erving himself took that approach when he moved into his current job at Systems Integration Solutions Inc. in Walnut Creek, Calif., about two years ago. He used LinkedIn to make contacts at the company and learn about the culture there. He prepared thoughtful questions that would help him understand the company's history and future, and he asked for an extra round of interviews so he could get to know more people.

"At the end of the day, there's only so much you can figure out from the interview process. It's a leap of faith. But if you can minimize the distance of that leap, the odds of you landing are better," he says.

Continually managing your career will give you a better shot of securing the right job when you need or want it, says Adam Alexander, vice president at MasteryWorks Inc., a career consultancy in Falls Church, Va.

"A career plan should be an ongoing process so you're always in a good situation or trying to improve your situation," he explains. That means thinking about what positions you want next, determining whether you can find them at your current company, getting the skills you need to move into those positions, and building relationships with people who can get you there.

"Everyone has to take an active role in their careers, whether they're looking or not," Alexander says.

> **"Everyone has to take an active role in their careers, whether they're looking or not."**
> **ADAM ALEXANDER,** VICE PRESIDENT, MASTERYWORKS INC.

That approach paid off for Luis Illanas, a 20-year IT veteran who was unexpectedly laid off in November from his job as a systems administrator. He quickly contacted more than two-dozen former colleagues to let them know he was in the job market. As a result of his solid network, he landed a position as a senior IT consultant at KDSA Consulting LLC in North Andover, Mass., within two weeks.

"I can't say enough about having someone who knows how you work and how much that helped," he says. "That's why, when you're working with anyone, you have to make a good impression. You never know when you might call that person for a job." ■

Pratt *is a* Computerworld *contributing writer in Waltham, Mass. Contact her at marykpratt@verizon.net.*

Time to Pack Your Bags?

Job prospects for techies aren't evenly dispersed. Some sectors are doing better than others – such as defense/aerospace, where bonuses increased by 19% and salaries by 2.2%. Some regions are doing better than others too. For example, in the West and South Central U.S., IT workers saw slight increases in their total compensation (see charts, page 27).

Such statistics might entice people to enter a new industry or move to another part of the country.

Adam Alexander, vice president at career consultancy MasteryWorks, says IT professionals are generally open to switching industries, but many are reluctant to move to new regions.

"Geography can be an impediment to career growth. Even with promotions, people will often turn them down if it means moving," he says. "I think it does hurt their careers."

While Alexander says staying put can be detrimental to career growth, he and others acknowledge that the decision to relocate is a personal matter.

"It's really around values and what's important to you," says Thuy Sindell, a leadership development coach at Mariposa Leadership. Some want to be close to their families or certain cities and are willing to forgo opportunities. Others put their careers ahead of other considerations and will move anywhere for a better position. Still others simply like the adventure of moving and seek jobs that let them experience new places.

Dave Willmer, executive director of Robert Half Technology, says the key is to be flexible. "Today's economy demands flexibility to a certain extent," he says. If you're not willing to move, you might have to be more flexible on, say, the industry you work in or your salary.

However, while flexibility is still important, Willmer says it's not as crucial as it was just several months ago, particularly for those who have in-demand skills, such as business intelligence expertise.

– MARY K. PRATT

[THE] Shrinking Female IT Workforce

Women in middle management are leaving the IT profession at an alarming rate. The struggling economy may be a help — or a hindrance — in keeping them. **By Stacy Collett**

LAST YEAR, programmer Nancy Sheets was forced to take a 20% pay cut along with the rest of the IT department at a Wisconsin-based plastics company, while everyone else working there took a 10% reduction in salary. IT staff also acquiesced to two weeks of unpaid vacation, while the rest of the company took one week of unpaid leave — all to ensure that the four IT employees kept their jobs.

"I was happy to keep my job, but also I couldn't afford the 20% cut with my husband being unemployed," says Sheets, 55, the only woman in her IT department. Her husband, who had worked as an IT manager at a different company, has been out of work for 14 months.

Sheets likes her work, but she wonders what a job outside of IT would be like. For now, however, she's had to put such musings on hold. "I'm supporting the family," she notes.

Many women in IT found themselves in a similarly precarious position in 2009. In January, the unemployment rate for men held at 10%, while it hovered at 7.9% for women, according to the U.S. Bureau of Labor Statistics. So it's not surprising that women are leaving their jobs at slightly lower rates than they were in previous years, according to the Center for Work-Life Policy. What's more, about 39% of women are outearning their husbands. "When the woman is the primary breadwinner, she's also less likely to leave her job," says Laura Sherbin, director of research at the New York-based CWLP.

But for women in IT, the salary picture tends to be less rosy. IT salaries for both men and women stagnated in the past year, according to *Computerworld*'s 2010 Salary Survey, and earnings disparities between men and women remained in place. While male CIOs earned an average of $177,843, female CIOs earned $148,965. Male application development managers earned an average of $114,610, while women with the same title earned $106,679. (See more comparisons in charts at right.)

Perhaps more alarming, the average bonus for women fell 15.5% in 2009, while the average bonus for men in IT declined 5.6%, according to *Computerworld*'s survey.

"Women don't leave IT jobs primarily because of pay disparities, but salary does play a role in the subtle, unconscious biases often held by IT leaders," says Catherine Ashcraft, senior research scientist at the National Center for Women & Information Technology (NCWIT) at the University of Colorado. "One way biases play out is evaluations, performance reviews; that definitely affects the salaries. There is that discrepancy, but it's not as great between men and women in technology as it is overall."

Lower salaries lead to women dropping out of the IT workforce when child care and other expenses start outweighing the income benefits. "Women make these kinds of calculations. Certainly a lower salary is not helping them stay in the workforce," Sherbin says.

Those frequent calculations have led to an ongoing exodus of women from IT, especially in middle management, according to the 2009 NCWIT study "Women in IT: The Facts." Some 74% of women in technology report "loving their work," yet those women leave their careers at a staggering rate. About 56% of technical women leave at the "midlevel" point, more than double the quit rate of men.

Researchers blame the midcareer departures most often on isolation, a dearth of mentors, and a lack of access to the types of networks that men have, Ashcraft says. Another factor is "competing responsibilities and work-life balance issues,"

WHY THE BONUS GAP?

These days, a company's tough financial situation might derail most rational requests for a bonus, whether they come from a male or a female worker.

But women traditionally don't earn higher bonuses because they often don't ask, says Laura Sherbin, director of research at the Center for Work-Life Policy. "When your bonus pool is fixed, and men say 'I want this or I'm going to quit,' and women don't say anything – men get the bonuses they want and women get what's left over," says Sherbin. "When they don't ask, their manager perceives that they don't care, or that they're in a second-earner situation where the money is not as important to them."

– STACY COLLETT

"Women don't leave IT jobs primarily because of pay disparities, but salary does play a role in the subtle, unconscious biases often held by IT leaders."

CATHERINE ASHCRAFT, SENIOR RESEARCH SCIENTIST, NATIONAL CENTER FOR WOMEN & INFORMATION TECHNOLOGY

she adds. "A lot of people think [of choosing] a tech career because it involves technology that can be done more flexibly from home. It can, but you have the flexibility to work all the time!"

But for women who choose to stay in IT, the glass ceiling appears to be coming down. "In the last few years we've seen an increase of female CIOs in major companies," as well as an increase in women in the IT workforce, says Carolyn Leighton, founder and CEO of Women In Technology International, a professional association.

Indeed, the percentage of women CIOs or executive vice presidents of technology at 1,000 leading companies rose to 16.4% in 2009, up from 12% in 2007, according to recruiting firm Sheila Greco Associates LLC.

Deborah Lindell, CIO at the Delaware Department of Corrections, credits her success to the fact that she has worked with a lot of people, nearly all of them men, who gave her opportunities.

"They found my brand of salesmanship and persuasiveness intriguing, and they liked how I approached a business problem from a technical perspective," says Lindell, 50, who is married with one child. She also made seven or eight lateral moves in 14 years at her previous employer. That mobility helped her stay engaged at a point in her career when she might otherwise have left IT. "I saw something that needed to be done and asked for the challenge. I did that a number of times, and when you are successful, people believe in you," she explains.

BONUS FREE-FALL

AVERAGE SALARY	
MALE IT WORKERS	FEMALE IT WORKERS
$89,929	$80,153
UP 0.7% FROM LAST YEAR	UP 0.7% FROM LAST YEAR
AVERAGE BONUS	
MALE IT WORKERS	FEMALE IT WORKERS
$7,442	$4,376
DOWN 5.6% FROM LAST YEAR	DOWN 15.5% FROM LAST YEAR

BASE: 4,133 MEN, 718 WOMEN

CASH CONTRAST

Five common titles and a comparison of what men and women earn:

	MEN	WOMEN
IT MANAGER	(BASE: 460) $90,032	(BASE: 72) $86,462
PROJECT MANAGER	(BASE: 140) $101,659	(BASE: 46) $99,793
HELP DESK/TECH SUPPORT	(BASE: 186) $50,933	(BASE: 42) $47,840
SYSTEMS ADMINISTRATOR	(BASE: 240) $71,767	(BASE: 38) $69,720
IT/BUS. SYSTEMS ANALYST	(BASE: 117) $81,337	(BASE: 23) $75,707

WOMEN IN THE MIDDLE

Some women in midlevel IT management say the lifestyle suits them just fine.

Lorraine Spencer doesn't plan on leaving her middle-management IT position at Johns Hopkins University anytime soon — even though there's a salary freeze and staffers aren't getting bonuses. At the Office of Continuing Medical Education, Spencer has found a perfect niche for her lifestyle and some benefits beyond bonuses. She enjoys a 37.5-hour workweek and has opportunities to move into different IT positions within the university.

"Universities are fabulous places to work for women," Spencer says. "I intentionally came here because it's a better work-life balance. There seem to be more opportunities for advancement for women. Our CIO is a woman."

What's more, the university will pay half of her son's tuition at any U.S. college or university — a perk offered to anyone who has worked there more than two years.

FILLING THE POOL

Ashcraft worries about the future of innovation if the pool of women in technology should continue to decline. "It isn't just about equity and fairness, though that's important, too," she says. "But it's also about the harm it does to innovation to have one relatively similar group of people designing the new technologies that are being consumed by a diverse range of people. To the extent that the talent pool becomes more similar, that creative innovation is at risk."

Companies are making strides toward closing the gap on women's pay and opportunities every day. Google, for example, has joined the CWLP to develop policies for employees with children. "A lot more companies are making this commitment and designing programs to help women," Sherbin says. "We hope it's a very positive outlook." ■

Collett *is a* Computerworld *contributing writer. Contact her at stcollett@aol.com.*

SPARKING GIRLS' INTEREST IN IT CAREERS

Female college students have slowly moved away from earning science, engineering and technology degrees over the past two decades. Only 18% of computer and information science degrees awarded in 2008 went to women, down from 37% in 1985, according to a study by the National Center for Women and Information Technology.

"A lot of times, girls are steered away from those careers either overtly or implicitly – through subtle messages that it's not really what girls do," says Catherine Ashcraft, co-author of the NCWIT study. "Or they hear the stereotypes about it being a boring job with no interaction with others, and you sit at a computer all day." The dot-com bust in the late '90s also gave college students the idea that IT careers were doomed and that computing jobs were being shipped overseas, she adds.

"I believe we have to start changing the way math and science are taught," says Carolyn Leighton, founder and CEO of Women In Technology International. "They are taught for the male brain. We have different ways of thinking and approaching issues. The only reason I hated math is that I like to think and create, and my math teachers wanted me to memorize all the time."

Others believe that technology careers need to be marketed differently to women – perhaps by presenting IT as a business-oriented profession that involves technical skills, or as a discipline that offers an opportunity to lead, create or help save the environment.

Valspar Corp. CIO Kate Bass believes that as more companies integrate technology into every facet of their operations, demand for women with IT skills will grow.

"As these organizations move along the spectrum of business partnership and away from programming and technical operations, women will be much more attracted to the discipline, as women tend to communicate and bond more effectively," Bass says.

– STACY COLLETT

■ OPINION

Joel Capperella

Creative Ways to Fight Talent Wars

THE RESULTS of *Computerworld*'s 2010 Salary Survey should serve as a warning. As the U.S. economy gains momentum, the IT industry will experience a talent war, the likes of which we haven't seen since the dawn of the dot-com era.

While salaries have remained flat, individual responsibilities and work hours have increased. The question now for IT managers is whether the fear of not being able to find another job is the only factor keeping employees on board.

Consider this anecdote: In December, I found myself on the West Coast talking with senior leadership of a large (and well-known) media company. One particular division is oriented toward the development and deployment of a certain (equally well-known) social media tool. The senior vice president of human resources for that division clearly articulated that while economic conditions are certainly affecting the business, they are having almost no impact on overall retention rates. He still has to pay top dollar for hard-to-find talent, and he has to work creatively to keep the necessary mix of technical skills in-house. It's a reality, he said, that keeps him awake at night and makes him wary of the eventual recovery. Those challenges will grow even more daunting as the job market warms up.

So how do you stem the talent exodus? To improve job satisfaction, consider taking these steps, which will lay the foundation for aggressive recruiting and retention strategies when the talent wars return.

1. Offer creative alternative benefits. Evaluate the demographics of your IT staff to identify alternative benefits that could boost your employees' job satisfaction. For instance, 401(k) contributions or extensive health insurance coverage might not be important to younger employees. But those staffers might be interested in credits toward technology purchases, opportunities to pursue technical training, fitness club memberships and so on.

■ Identify alternative benefits that could boost your employees' job satisfaction.

2. Implement internship-style staffing rotations. Consider adopting a rotating schedule that, every few months, moves teams across disciplines. This lets employees experience new situations, expand their skill sets and avoid monotony. If you challenge employees and give them new opportunities, it shows that you're invested in their professional development.

3. Share budgeting responsibilities. Constricted budgets don't have to be an obstacle to improving employee satisfaction and retention. Try sharing budgeting responsibilities across the entire staff. Instead of handing down the spending commandments and the "thou shalt nots" of corporate finance, clearly articulate your organization's cost containment objectives. Then offer incentives to employees who can find creative ways to achieve those goals while preserving speed and quality of delivery. This requires strong communication, but it will help your staff feel connected to the budgeting process rather than seeing spending restrictions as dire impositions handed down from upper management.

4. Promote personal branding. Educate employees on how to improve their personal brands and employability. Help them increase their personal search engine optimization. Assist employees in leveraging social media tools to define their work success. Give them incentives for speaking at trade shows or contributing to IT blogs. While this might seem risky, since it would bring your staffers' talents to the attention of other employers, it could foster a sense of loyalty within the ranks.

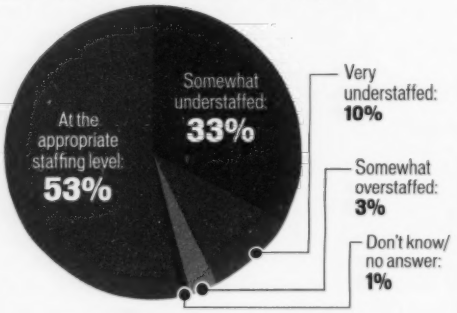
Such strategies might not be easy to implement, and they most certainly require deep collaboration with HR. But since job satisfaction rates are so low these days, it would almost be negligent of you not to explore new ways to improve morale. ■

Joel Capperella *is senior vice president of client solutions at Yoh, a talent and outsourcing services provider.*

Career Watch

Those With Jobs Have Plenty to Do

CIOs were asked, "How would you describe the staffing level of your IT department in relation to current workloads?" Here are their responses:


At the appropriate staffing level: 53%
Somewhat understaffed: 33%
Very understaffed: 10%
Somewhat overstaffed: 3%
Don't know/ no answer: 1%

SOURCE: ROBERT HALF TECHNOLOGY TELEPHONE INTERVIEWS WITH MORE THAN 1,400 CIOS AT U.S. COMPANIES WITH 100 OR MORE EMPLOYEES, NOVEMBER 2009

THE DIRT ON CERTS

Some certifications are worth more than others, and Dice Learning has compiled a list of the top 10 for technology professionals. After surveying 17,000 people who work in IT, Dice Learning determined that the following certs have most helped technology professionals command higher salaries at all experience levels.

PMP	The Project Management Institute's Project Management Professional certification
MCSE	Microsoft Certified Systems Engineer
A+	A vendor-neutral certification from CompTIA for tech-support technicians
CCNA	Cisco Certified Network Associate
MCP	Microsoft Certified Professional
Network+	A CompTIA cert for networking professionals
CISSP	The Certified Information Systems Security Professional certification, from (ISC)²
MCSA	Microsoft Certified Systems Administrator
ITIL	The three-tier IT Infrastructure Library certification, which demonstrates the expertise of professionals in tech management
Security+	A CompTIA cert for IT security specialists

PAGE COMPILED BY JAMIE ECKLE.

■ Q&A

Darin Edmunds

The leader of the Action program at Micro Focus explains what it's doing to bring young people into the Cobol fold.

What is the Academic Connections, or Action, program? The Action program was conceived to introduce and maintain Cobol in IT academic programs, in response to fears that such programming and other IT skills could be lost because of dwindling interest in Cobol as newer and more glitzy technologies arrive on the scene. The idea is to forestall a potentially disastrous resource vacuum.

It would be disastrous because Cobol remains extremely important. In a single year, Cobol applications are involved in transporting up to 72,000 shipping containers, caring for 60 million patients, processing 80% of point-of-sale transactions and connecting 500 million mobile phone users.

The IT industry is continually reinventing itself with newer technologies, which is great for the furthering of technology but does very little for supporting what works today. We are working with industry, government and academic institutes through the Action program to ensure that the technology that supports global markets has a renewable pool of well-educated, Cobol-capable resources. Through the Action program, noncommercial academic institutes can apply for access to our software for use on the campus to support their education programs. The program also enables third-party partners to support subscribed academic institutes and provide employment opportunities.

The IT industry of today requires well-rounded IT professionals. Beyond pure programming skills, there is a demand for quality awareness and the best practices that ensure success. To meet these needs, the Action program will evolve to include more support while staying true to the original ethos of keeping Cobol current.

How do you gauge the program's success? Currently, by the number of academic institutes signed up, which has recently exceeded 100 globally.

How do you convince today's students that Cobol is worthwhile? Based on the increased number of Action applications, we seem to be doing that. But we must not become complacent. Offshoring and outsourcing are still key strategies for businesses, and we see significant uptake in those countries associated with delivering offshore services. We have significant partnerships putting Cobol in the "candy shop," so to speak, to keep its youth appeal – programs such as Visual Cobol, Cobol on Unix and other things geared toward promoting the technology for building future solutions. We are increasing awareness of Cobol as a modern technology, and, to show how Cobol can be associated with career growth, we are coupling that awareness with information such as the part that Cobol plays in today's economy.

– JAMIE ECKLE

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Shark Tank

TRUE TALES OF IT LIFE AS TOLD TO SHARKY

Always Glad to Help

It's 2 a.m. when this IT pilot fish gets an automated call from the data center: A job has failed. "I had to drive one and a half hours to the site to see what was going on," says fish. "Once on-site, I realized that after an air conditioning unit had failed in the computer room, somebody had come in and powered off all the console screens, which resulted in log files getting full and the servers crashing." Fish turns all the machines back on and gets things working again. Then he checks the logs and discovers who did the deed: It's a manager who had been in the data center after the operations staff had gone home. Fish leaves a message for a colleague, asking him to have a word with that manager. Make that four words: Leave fish's machines alone! And when the colleague tracks down the manager? "The manager admitted he had just been in the computer room," sighs fish. "He'd done it again, and could somebody come over and power them back on?"

Can't Be Too Careful

Big boss's PC gets a virtual memory error. "His system only had 512MB of memory," says this pilot fish sent to help. "I told him I would be right back to correct the problem." One upgrade to 4GB later, everything's fine. But as fish is leaving the office with the old memory module in his hand, the big boss asks, "What happens to that chip?" Fish explains that he has replaced the old memory with another chip and he now has more system memory, so this chip isn't needed. Big boss says, "You're not understanding my question. What happens to my files that are on that chip in your hand?" Reports fish, "I explained that information is not retained on the chip. This satisfied him and I was allowed to leave with the old 512MB chip."

The Reason Why

This IT pilot fish knows the support drill cold. "User calls the local division help desk to request a change," he says. "Help desk tech opens a ticket and forwards it to the IT supervisor. IT supervisor approves and forwards it to the IT manager, who approves the change and sends the ticket to the division general manager. The GM approves it and sends it back to the IT manager, who sends the request to the corporate help desk, where another ticket is opened. Corporate help desk tech analyzes the request and sends it to the IT department that handles this issue and then forwards the request on to the person who will make the change. To close the tickets, the same steps are taken in reverse order. Before Sarb-Ox, there were only two steps: The local user just called the technician, who took care of the issue on the spot."

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■ OPINION

Thornton A. May

The Look of Post-Cloud IT

I RECENTLY SURVEYED the vendor, analyst and trade-show landscape seeking to get a snapshot of current thinking about cloud computing. I came away with two visceral conclusions. The first is that vendor marketing on this topic is terrible. One would be hard-pressed to find more gibberish per pixel than the typical vendor or analyst PowerPoint presentation on cloud computing. The second conclusion is that no one really knows anything about what will happen to IT after the cloud becomes a mainstream reality.

All right, maybe somebody knows something, but no one who is talking about it publicly is speaking intelligibly. And we need to start having this conversation. To kick things off, let me observe that in my 30-plus years in this industry, I have learned that every time we have a major IT phase change — and cloud computing is looking like the latest of many — those who adapt the quickest are the ones who can answer these questions:

1. Where are we?

2. Where do we want to go? (That is, what, strategically speaking, are our options?)

3. How do we get there? (That is, tactically, what are our options?)

4. How do we persuade the enterprise to make the trip?

The vendor presentations I regrettably had to endure tended to obsess on the current state of technology. Vendors pay lip service to the maxim "Nobody buys technology for technology's sake anymore," but these presentation materials unmasked an assumption that the reason to buy is purely technological.

As for the post-cloud end state, it merited not one mention. That oversight rankles me, but I am unreservedly a futurist. In a way, though, we all are. Paleoanthropologists tell us that planning ahead is a defining characteristic of the human condition. Neurophysiologist William Calvin, author of *A Brief History of the Mind*, argues persuasively that modern human cognition, including the capacity to plan ahead, had its origins in our ability to target a moving animal with a thrown rock. And so I stand here, rock in hand, asking, Where is this moving animal we call cloud computing going, and do we really want to go there?

■ Where is cloud computing going, and do we really want to go there?

Again, it is all of my decades of experience in this industry that make me ask this. All too often, we have tended to characterize lack of action as a very bad thing. To be successful, one has had to be perceived as doing something; that's how a generation skilled in presenting an aura of perpetual motion — I call it "faux busy-ness" — came to prominence. And when you are faux busy all the time, your mind is apt to focus on how to remain faux busy, which precludes any real likelihood that you will stop and ask the all-important question, How does this end?

Forgetting to answer that question can often turn out badly. History-minded readers may recall that the armistice ending World War I took most Americans by surprise. In *Selling the President, 1920,* John Morello notes that "little thought had been given as to what to do after the shooting and cheering stopped." Of course, most historians also believe that the way the war ended had a lot to do with the eventual outbreak of an even bigger conflict at the end of the 1930s. Our foresight hasn't really improved since then: The general consensus is that the post-combat phase of the Iraq war was underplanned.

Psychologists and cognitive scientists tell us that we humans like stories. We like beginnings, middles and ends. That suggests that we all should be eager to find out how the cloud computing story will end. Will there be one ending or many — in other words, does my cloud look like your cloud? What do you foresee? ■

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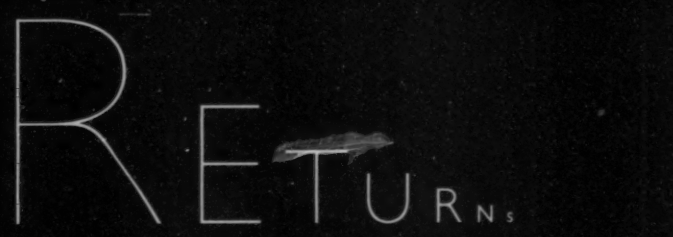

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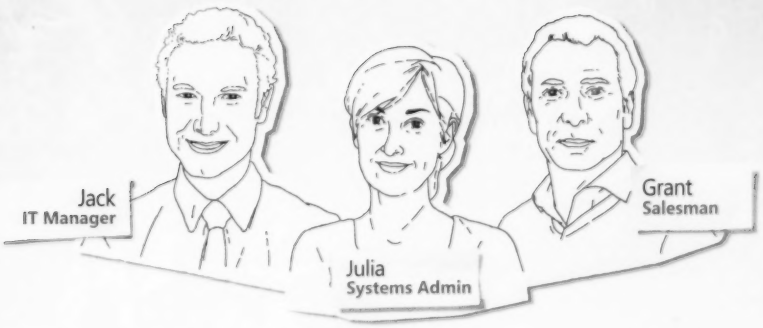

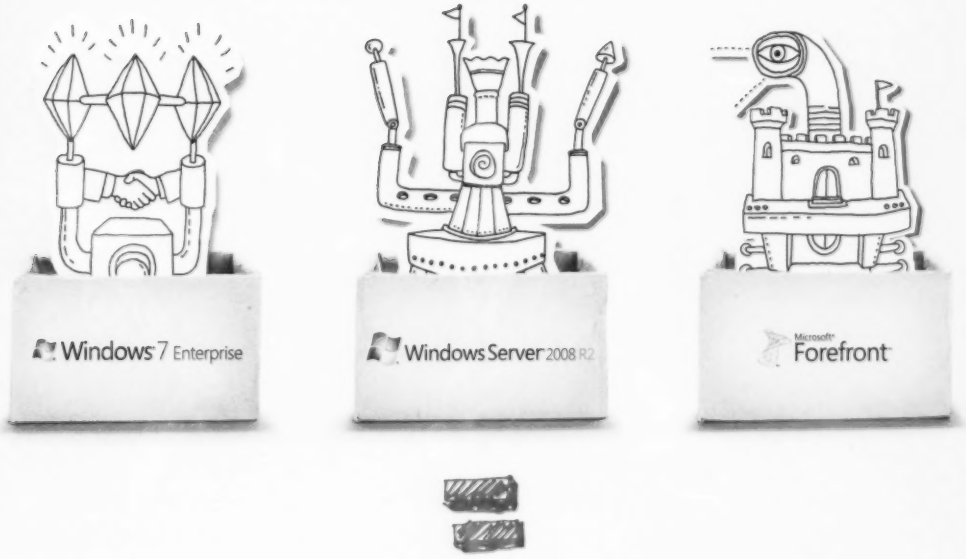

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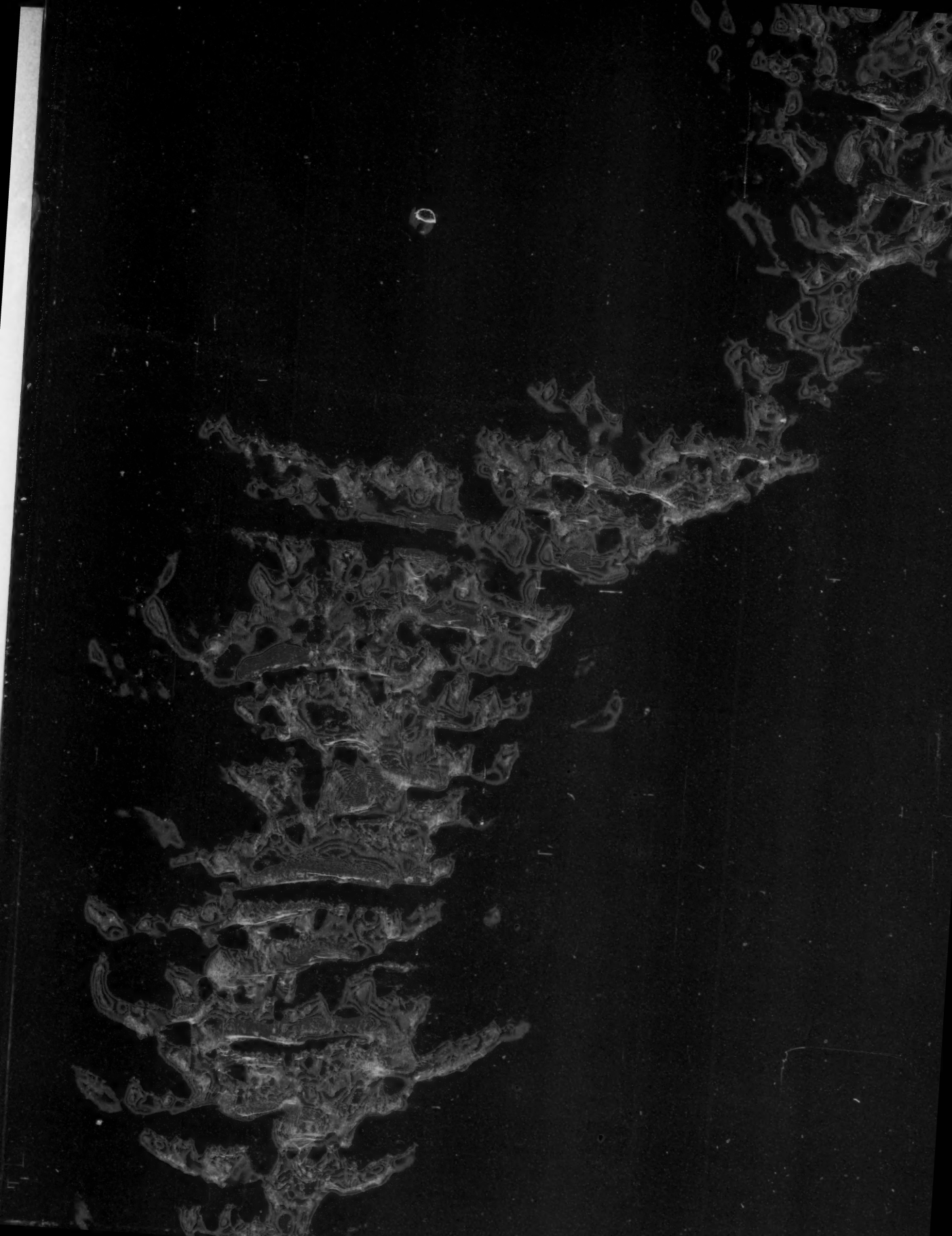
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